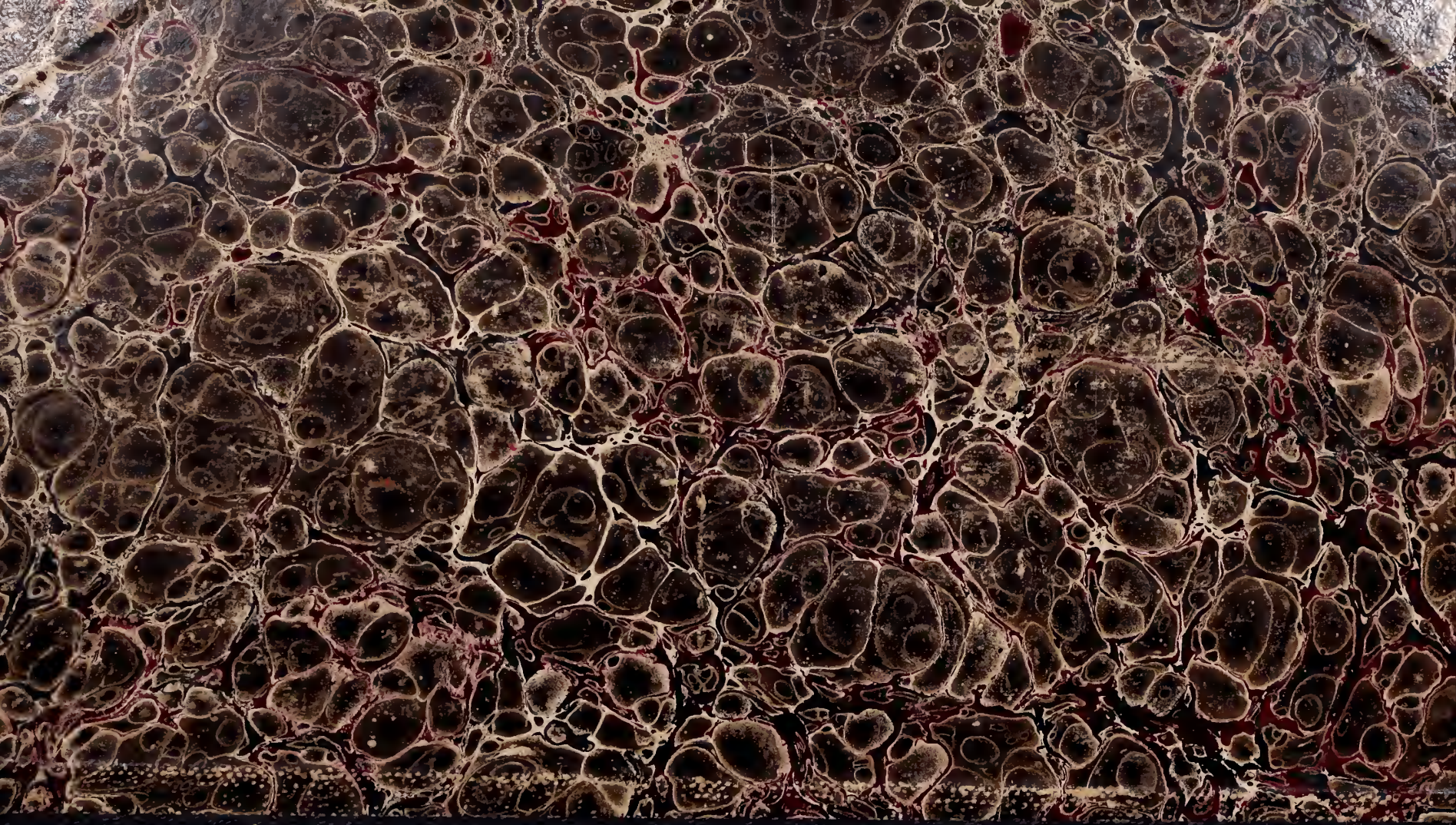

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Vol. IX. June, 1899. No. 1.

THE NATIONAL MEDICAL REVIEW

WITH SUPPLEMENT

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Therapeutic Notes.

Alcohol as an Antidote for Carbolic Acid.

W. O. Gross (*Fort Wayne Medical Journal Magazine*, No. 29, 1899,) applied a quantity of pure carbolic to the back of his hand and allowed it to remain until the action of the acid had manifested itself by a burning sensation, when an application of pure alcohol was made, and the escharotic action of the acid was checked at once.

The writer also deliberately placed the end of his tongue in carbolic acid which was contained in a shallow dish, with the result of receiving the full escharotic action of the acid on the soft, delicate tissues and membranes. The pain experienced was intense, yet the application of alcohol, which was made by holding a tablespoonful of the fluid in the mouth for a period of thirty seconds, entirely relieved the pain and destroyed the action of the carbolic acid so that no inconvenience was afterwards manifested.

Carbolic acid, when taken internally, acts energetically as a corrosive narcotic poison, its first effect being to corrode and destroy the tissues with which it comes in contact, producing a chain of toxicological symptoms not unlike those of mineral acids. The secondary effect is that of a narcotic with the characteristic action on the pupils, skin, temperature, respiration, and pulse.

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The ease with which alcohol is procurable and the simplicity of its application, coupled with its safe and rapid action, stamps it as being, so far as known at the present time, the specific for poisoning by carbolic acid.—*Medical Age.*

A Familiar Clinical Picture.

One of the most common class of cases is that in which there are no well defined characteristic symptoms of organic disease, but in which there are disturbances of practically all the functions of the body. This condition is variously termed general debility, malnutrition, general atony, etc. The symptom-group is an exceedingly complex and varied one, but the most striking disturbances are those connected with the processes of metabolism; the patient is unable to replace by food the active waste occasioned by the physiologic functions. In consequence of this, nutrition suffers, vital force becomes diminished and there is functional disturbance of practically all the organs of the body. The stomach and the processess of digestion become particularly enfeebled and as a consequence there arise the symptoms of atonic dyspepsia, with lack of appetite and inability of the digestive organs to prepare the food for assimilation. The patient's vital powers are at a low ebb and nature's method of recuperation, that is, by assimilation of food, is effectually inhibited by inability of the organs to furnish the required properly prepared nourishment. Every physician has many times realized the absolute uselessness in these cases of the ordinarily employed tonics, iron, arsenic and strychnine. It is soon apparent that the remedies are either not absorbed or if they do enter the system, they fail absolutely to re-establish the proper ratio of metabolic waste and repair. It is now universally conceded by authorities that the first requisite in the treatment of this class of cases, is to foster the patient's nutritive functions so that food will become assimilated and thus restore wasted tissue and impaired vital forces. The stomach is the organ of prime importance and its normal functional activity must be re-established by remedies which have a direct tonic alterative and stimulant influence upon its enfeebled, inactive mucous membrane. Stomachics—gentian, tarxacum, phosphoric acid, etc.—are the agents of most service. When however, these stomachics are combined in a certain manner with a remedy which, according to the highest

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The Working Tools of the Craft.

An editorial in the *Dominion Medical Monthly*, Toronto, Canada, March, 1899, contains the following well written and forcible sentences:

Coincident with the onward progress of the medical art has been the advance in our knowledge of the cause of disease. As the practice of medicine and surgery has graduaally but surely emerged from the darkness of charlatanism and empiricism and approached more nearly to the dignity of a science, the pressing demand for better facilities and better "working tools" has been met alike by the skillful instrument maker and the modern expert pharmaceutical chemist. The modern physician has been furnished with

Continued on page 8.

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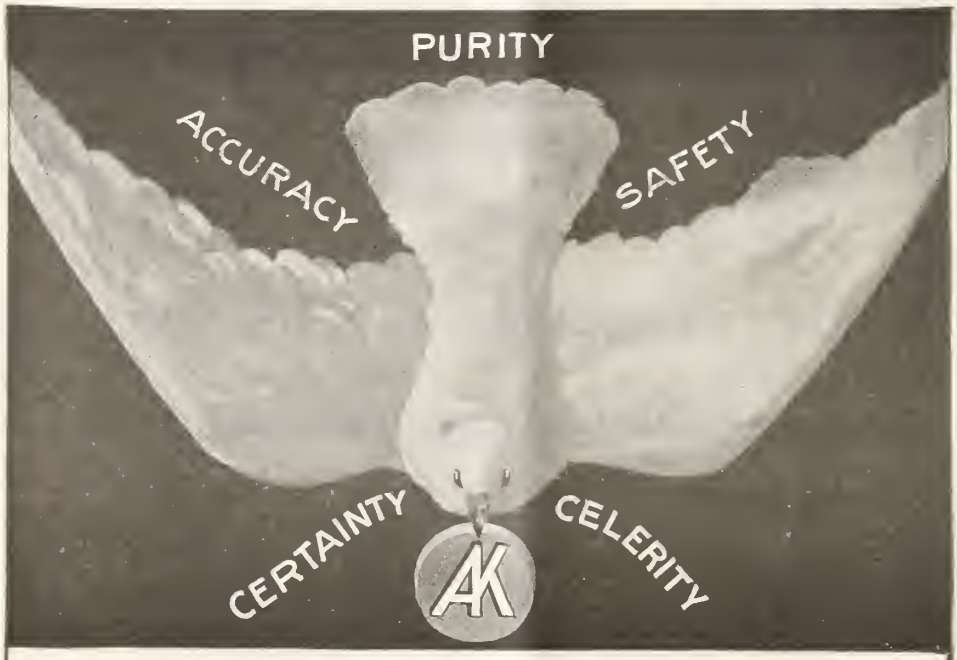

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A New Thing—and a New Name which, though literally translated (Blood Treatment), may not convey to every one a definite idea. It is a treatment which consists in opposing to a condition of disease the very power—good and sufficient Blood—that would naturally prevent it, that would still cure it spontaneously, and that actually does cure it spontaneously, wherever the blood-making work of the system is perfectly efficient; and therefore also *will* cure it, if a deficiency of the vital element be supplied from without, under proper medical treatment.

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of no matter how long standing or obstinate and aggravated character, can be cured with certainty—at least, the first instance of failure has yet to be heard of—by constant application of bovinine to the wound with proper surgical treatment and sterilization. Such cases are usually cured in from four to six weeks. So of traumatic injuries of all kinds; carbuncles, fistulas, abscesses, and even gangrene.

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The *St. Louis Medical and Surgical Journal*, May, 1899. pays the following well deserved tribute.

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Prompt relief, unaccompanied by habit or untoward after-effect, is what the up-to-date practitioner desires most in these cases. If the pain is over the lower border of the liver, or lower part of the stomach or in short, be it headache, sideache, backache or pain of any other description caused by suppressed or irregular menstruation, it will yield to two five grain tablets of Antikamnia. This dose may be repeated in an hour or two if needed. For very prompt relief, it is advisable to crush the tablets and swallow them with a little wine, diluted whisky or toddy.—*Ohio Med. Journal.*

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The Treatment of Carbuncles.

Dr. Milton P. Creel, of Central City, Ky., in the *Cincinnati Lancet-Clinic*, April 29, 1899, says one of the first considerations in the treatment of a patient with carbuncles is to see that he is well and thoroughly nourished and I must not omit to mention the value of stimulants in some cases. Iodides, sulphide of calcium and iron have utterly failed to modify in any way the progress of a carbuncle. For some months I have relied upon ecthol as an internal medicine. I have notes on fifteen cases treated with this agent. I employ it in doses of a teaspoonful every two hours. In internal administration it is the only drug which I can say has ever seemed to abbreviate the carbuncle. It is a corrector of blood dyscrasia, and in the best sense an antipurulent. In this connection we may say that an anti purulent is just what our therapeutics has lacked, and it is the first need of the practitioner when he has a carbuncle under his charge. Of course, opiates are often called for to overcome the pain. Papine is the best way to exhibit this agent, since it does not produce interference with the secretions as in the case with other opiates. I give it in doses of a teaspoonful every one or two hours until the patient has obtained relief from pain.

Locally and surgically I first employed flax seed poultice and then an incision is made, the pus emptied; the cavity scraped and all the dead inflamed tissue removed. It is then carefully cleaned with peroxide of hydrogen. Then absorbent cotton saturated with ecthol is applied to the exposed and adjacent surfaces. This is to be reapplied every four or eight hours, as the case in hand seems to warrant. If we employ this agent as our internal remedy, and use it also as a local application, we shall find that our treatment will prove more effective than by methods employed formerly. I have treated fifteen cases of carbuncles in the manner here outlined, and the duration in each case has been greatly shortened, and the patients naturally got up with less weakness than they otherwise would. Before employing this agent, a carbuncle meant a long spell and death or long-continued convalescence. The average duration of my cases under this treatment has been ten days.

Cure of Epidemic Cerebro-Spinal Meningitis by the Use of Crede's Ointment of Metallic Silver.

Schirmer (*New York med. Monatssch.*, November, 1898) has reported a series of favorable results with unguentum crede, which, in consideration of the malignant character of this affection when epidemic, appears to be a distinct advance in pediatric therapeutics. The number of cases treated was nine; mortality none. The ointment was applied by inunction, one ounce daily for three days, and, in case of relapse, one-third of an ounce. Synergistic measures were hot-water applications along the spine, with a little trional whenever the latter was indicated. The nasal fossæ were disinfected. The cures appear to have been clean cut, and sequellæ were absent. In several of the cases it is stated that immediate improvement followed the individual inunctions. *Med. Rev. of Rev.*

Picric Acid Dressing of the Umbilical Cord.

Rochon (*Canada Medical Record*) points out that three kinds of dressing are applied to the umbilical cord, the oily, the mosit and the dry. To the first he objects that it is imperfectly antiseptic, and is opposed to the keratogenic transformation of the young epidermic elements; the second (moist) method is sufficiently antiseptic, but it delays the fall of the cord, and often leaves an imperfect cicatrix; while the third (dry), by the rapid desiccation of the cord which it causes, produces the danger of premature separation and hæmorrhage. To meet these objections Rochon proposes the use of picric acid in solution. The cord is surrounded by a piece of aborbent cotton soaked in a 1 to 200 solution of picric acid. Thus the decomposition of the cord is prevented and cicatrisation of the umbilicus is aided. A single dressing may suffice, but it is best to repeat it on the second or third day.—*Charlotte Med J.*

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ELIXIR MALTOPEPSINE (TILDEN'S)
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Prevention of Hay Fever.

In the January 21st, 1899, number of *The Journal of the American Medical Association*, Dr. Alexander Rixa, of New York, contributed a very interesting article on "Prevention of Hay Fever." After a historical review, and a brief survey of the results achieved in the past few years, the writer resumes the results of his own investigations.

His researches lead him to admit that the pollen of the Roman worm-wood, ragweed (ambrosia artemisæfolia) is the primitive and active cause of this peculiar disease. By inhaling these pollen he produced the symptoms of genuine hay fever. He writes as follows:

From the time I found the pollen to be the exciting cause of the disease, I conceived the idea of rendering the receptacle aseptic by preparing the soil for the reception of the pollen. Naturally, they will find no proper soil for a possible generation, propagation or development. For this purpose I decided on the following treatment.

About two weeks before the onset of the disease I commence to irrigate and sterlize the nasal cavity and the post-nasal spaces with a harmless antiseptic solution, using the douche and atomizer. After giving a great number of antiseptics a fair trial, I decided on Hydrozone as the most innocuous and most powerful germicide. Hydrozone is a 30 — volume aqueous solution of peroxide of hydrogen. At the beginning I use it for irrigation diluted in the proportion of one ounce of Hydrozone to twelve ounces of sterlized water. Nearing the period of the expected onset of the disease, I increase the dose to two or three ounces of Hydrozone to twelve ounces of the sterlized water, according to the severity of the disease, using the douche, either tepid or cold, four times a day—morning, noon, evenings and at bedtime—while during the intervals I use the atomizer, with a solution of Hydrozone and pure glycerine, or sterlized water, one to three, thus keeping the nares perfectly aseptic during the entire period, and preventing the outbreak of the disease in consequence thereof.

Digested Iron.

There is absolute unanimity of opinion among leading clinicians concerning the superiority of organic iron—particularly the peptonate—to the various inorganic salts. Kunkel's experiments upon dogs (Pflugers Arch., vol 61, p. 595) show how the albuminate of iron is absorbed from the intestinal tract and enters the various organs and tissues of the body. It is well known, however, that all albuminates when taken into the stomach must, in order to be absorbed, undergo the process of digestion before they are in the form of peptones, which latter are the only forms of albumen ready for immediate absorption.

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In anæmia and allied conditions the absence from the blood of the normal constituent manganese presents a marked indication for the exhibition of this remedy. It is now an accepted axiom in therapeutics that manganese, in order to be available as a blood reconstructive, must be associated with iron—preferably with peptonate of iron. The value of strychnine and arsenic as alterative tonics and reconstructives is universally recognized. The phosphate of strychnia is superior to its other salts as a nerve tonic because the phosphate is a normal constituent of nerve tissue. Arsenite of strontium has been found by Solomon to yield the therapeutic effects of arsenic in a much shorter time and without the toxic effects induced by other salts of arsenic.

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Picric Acid in Eczema.

F. Radaeli (*British Medical Journal, March, 1899*). The affected part was first freed from scabs, etc., the hair cut as short as possible, and the whole region thoroughly washed with boracic acid solution. When the part had been dried, applications of a saturated watery solution of picric acid were made with pledgets of cotton; then a compress wrung out of the same solution was applied, and over this was placed a layer of cotton-wool, the thickness of which was proportionate to the abundance of the secretion. The whole was kept in place by a bandage. The dressing was left on for one or two days. The author points out the special convenience of the picric acid dressing in acute eczema where there is much "weeping," as it does not require frequent changing. On the other hand, the remedy has the disadvantage that it causes great smarting in the parts to which it is applied. This, however, ceases completely in ten or fifteen minutes, giving place to a sense of relief which is mainly due to the cessation of itching. *Charlotte Med. J.*

The Causation and Treatment of Consumption.

In a paper read before the Wayne Co. Medical Society, Dr. John R. Kestell, Ph. C., M. D., of Detroit, Mich., remarked that he had little faith in specifics in the treatment of tuberculosis. He believes it is entirely a disease of malnutrition, as a result of defective elimination, and all therapeutic measures must be directed toward the improvement of the digestion and assimilation. Consequently he is explicit in his instructions as to diet, forbidding absolutely the use of alcohol, syrups, potatoes in any form, pork, veal and all such dishes as are difficult of digestion and prone to fermentation. In many of these cases of alimentation he has found it beneficial to give some good diastasic extract of malt, that known as Maltine proving most satisfactory for the reason that it is the only malt extract known to him which gives generous proportions of nitrogenous and phosphatic matter, with a proper proportion of carbohydrates; being made, as it is, from wheat and oats, in conjunction with barley, instead of barley alone. Tonics, stimulating the nervous system and digestive organs and assisting in the reconstruction of blood and tissue, are important. Stimulating baths may be used with good results. It is, in his opinion, a mistake to overwhelm the body with frequent injections of undetermined animal serums, thereby producing either a severe reaction or possible accumulative toxemia.

Chronic Cystitis.

In the *Alkaloidal Clinic*, February, '99, a correspondent reports the following case, which is typical of a class quite frequently met with in medical practice: A farmer's wife, age thirty-two, for three years has had bladder pain during and after urination. She passes some blood and mucus at times, while at others the urine is clear. She urinates hourly by day and several times by night; feels worse when riding and in cold weather, and complains of aching over the sacrum. For the treatment of this case, the editor of the Clinic recommends as follows: There may be an ulcer in the urethra. Look for it. Give salol gr. v, four times a day, and wash out the bladder with warm water containing benzoic acid, thirty grains to a quart; then throw into the empty bladder an ounce of europhen-petrolatum. Give hyoscyamine (amorphous) enough to control the pain or redden the skin, every evening. Salol in passing through the urine destroys all micro-organisms and greatly relieves an irritable bladder. Benzoic acid promotes a healthy condition of any mucous membrane to which it ts applied, and europhen heals ulcers and kills gonococci.

A Striking Testmonial.

Massachusetts College of Pharmacy. Department of Analytical Chemistry, Boston, Mass., Jan. 28, 1899.

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Gentlemen :—I have recently made

Continued on page 16.

DISTINGUISHED CHEMISTS

SUCH AS PROF. WILLIS G. TUCKER, OF THE ALBANY MEDICAL COLLEGE; PROF. WALTER S HAINES, OF THE RUSH MEDICAL COLLEGE; PROF. JEROME H. SALISBURY, OF THE RUSH MEDICAL COLLEGE; PROF. JOHN G. SPENZER, OF THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS; PROF J. W BAIRD, OF THE MASSACHUSETTS COLLEGE OF PHARMACY; PROF. W. C. BENNETT, OF THE WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS; AND DR. WILLIAM D. HORNE, OF YONKERS, CERTIFY THAT MALTZYME IS SUPERIOR IN DIASTASIC POWER TO ANY MALT PREPARATIONS HERETOFORE PRESENTED TO THE MEDICAL PROFESSION, AND WHAT THEY SAY IS BASED ON ANALYSES. WE WILL BE PLEASED TO SEND YOU THEIR REPORTS.

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tests upon some malt extracts plain to determine the number of parts, by weight, of reducing sugars, that one part of the extract will produce from starch within a given time, thus showing their comparative diastasic activity.

I purchased the samples in the open market and the following result may be of interest to you.

The figures represent the number of grammes of reducing sugars, (calculated in terms of Maltose), that one gramme of the extract forms, when in contact for 30 minutes with an excess of arrow-root starch paste, and are the average of two determinations.

0.3608, a diastasic malt, plain.
4.4531, a diastasic malt, plain.
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Respectfully, J. W. Baird, A. M., Ph. C., M. D. Professor of Analytical and Organic Chemistry.

Nothing Better in Dyspepsia and Cholera Infantum.

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Dressing for Umbilical Cord.

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THE
NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., JUNE, 1899. NO. 1.

Original Articles.

A CASE OF CARCINOMA OF THE ŒSOPHAGUS WITH PARTIAL STENOSIS DUE TO EXTRA ŒSOPHAGEAL METASTASIS.*

BY EDWIN B. BEHREND, A. B., M. D., Washington, D. C.

The infrequency of carcinoma of the œsophagus is a sufficient reason for the presentation of a case in detail, especially if it presents features which cause it to differ in some respects from those usually met with. With this idea in mind I offer a study of the following case for your consideration.

Mrs. W.; aged 58 years; family history negative except for an uncle who, it is claimed, died of cancer of the liver; widow; has had six children, all of whom are well and hearty at the present time. The patient herself has always enjoyed fairly good health. Six years ago she had a carbuncle on the left shoulder, which was incised and curetted. Since August or September, 1898, she has suffered with dyspeptic symptoms. Her main discomfort at first was a sensation of heaviness and oppression behind the sternum at its lower border, this was frequently accompanied or followed by the immediate regurgitation of some of the food ingested. The patient then noticed that she was becoming weak and losing in weight. Towards the end of October, 1898, pain appeared as a symptom. This pain was situated in the epigastric region and spread to the vertebral column along the right costal border. Regurgitation of food immediately after swallowing became a more prominent symptom; from this time also (October, 1898,) her food has been almost entirely liquid. Solid food caused a sensation of pain behind the sternum. She was frequently nauseated and complained of eructations of gas, but has never been able to vomit. Attempts to produce vomiting and even severe retching never succeeded in bringing up any stomach contents. Toward the end of January, 1899, the patient consulted Dr. Jos. T. Johnson, fearing that she might have some affection of the uterus. Examination showed no lesion of the generative organs and the patient was referred to me on account of suspected malignant disease of the œsophagus.

February 4, 1899—Physical examination of the patient. She was frail in stature, emaciated and weak (but able to be up and about) and of a somewhat cachectic appearance. Lungs normal. Heart normal; first sound slightly obscure. In the supra-claricular region on the left side anteriorly there is a deep scar at the

*Read before the Clinical Society, May 15, 1899.

site of an old carbuncle. About this scar a number of small but enlarged glands could be felt. The abdomen was flabby and pendulous; subcutaneous fat greatly diminished in amount; striae of pregnancy marked. On palpation, the epigastric region was found very sensitive and resistant. No floating kidney could be detected. The spleen was normal in size. The left lobe of the liver appeared enlarged and was quite sensitive on pressure. The stomach was not readily percussed; but on distention with CO_2, it was found dislocated downward so that the lesser curvature was at the level of the umbilicus; the organ was small in size. After a Boas-Ewald test breakfast, an attempt was made to recover it; this was futile as it was not possible to introduce the stomach tube. About 13 inches from the incisor teeth the tube met with a decided hindrance, which could not be overcome. On withdrawing the tube, bloody mucus was found to cover the tip. Further attempts were then abandoned. The small amount of fluid withdrawn was examined and found to consist of mucus mainly, some undigested breadcrumbs, numerous bacteria, a fungus growth, a large number of leucocytes, red blood cells and squamous epithelia. The reaction was neutral and no ferments except ptyalin present. Examination of the blood—Erythrocytes, 4½ million; haemoglobin, 80 per cent; leucocytes, 6,000. A differential count proved entirely negative. The urine was scanty and high colored, contained no albumen, no sugar; indican was diminished; chlorides, phosphates sulphates all qualitatively diminished; urea, 2½ per cent. No casts or other pathological deposits.

The clinical history and objective signs indicated the presence of an obstruction at the lower end of the œsophagus. The question arose as to its nature. Of that there was little doubt in my mind. If we take into consideration the age of the patient, the previous condition of good health; the comparatively short duration of the illness, associated with rapid emaciation and cachexia; the presence of blood on the exploratory sound; the evidence in favor of malignancy was complete enough to warrant the diagnosis. [vide Leube. Spec. Diag. der inner. Krank.]

It is necessary of course to consider the various conditions which lead to the obstruction of the œsophagus, in arriving at a diagnosis, since a too hasty conclusion that a stenosis is malignant may lead to serious error.

It must be remembered that obstruction of the œsophagus can proceed from a number of pathological conditions—intra, and extra, œsophageal in their nature—which must be taken into consideration by the careful diagnostician. There was no evidence in this case that the constriction was the result of the action of caustic substances. Cardiospasm is excluded by the history of the case, absence of nervous symptoms and presence of blood. Of extra-œsophageal causes, aneurism, mediastinal tumor or abscess, pericardial exudate, or deformity of the spinal column, need only to be mentioned to be immediately excluded without any hesitancy. The diagnosis made on the basis of the above considerations was therefore carcinoma of œsophagus in its lower third, with probable metastasis in the left lobe of the liver.

The subsequent history of the case was in the main, uneventful. Treatment was directed to relief of pain and efforts made to nourish the patient as completely as possible by the administration of

highly concentrated liquids and semi-solid foods. Iodide of sodium was given in thirty grain doses daily on the recommendation of Boas, who claims that in his hands, the drug has frequently relieved the severe pain and prevented the stenosis of the œsophagus from becoming complete. Personally I cannot say that it relieved the pain to any extent, for it was necessary to give morphine during the entire course of the disease. That the constriction was not complete can be better explained by the pathological findings than by the action of the above-mentioned drug. On February 20th, the cervical glands on the right side were observed to be slightly enlarged for the first time, and grew larger with great rapidity. This discovery, of course, further confirmed the diagnosis. In order to overcome the anorexia and to afford more sustenance, nutritive enemeta were tried, but had to be abandoned owing to intolerance of the rectum.

The course of the disease was progressively downward; the patient became weaker and weaker and slight, irregular fever appeared towards the end of the disease. Toward the end of March, diarrhœa set in, which was controlled with difficulty by the administration of acetate of lead and opium. Light œdema of hand appeared followed by low delirium and the patient died April 16, 1899.

Postmortem, April 17, 1899—Body very much emaciated; greenish discoloration of neck and abdomen; cervical glands on right side of neck enlarged and irregular in shape; subcutaneous fat absent; mammæ atrophic. Median incision from root of neck to symphysis, opening abdominal cavity. Diaphragm at level of 6th rib on both sides. Gastro-enteroptosis; lesser curvature of stomach at level of umbilicus; transverse colon on level with crests of ilia; right kidney freely movable.

Lungs: Crepitant, full of air; slight amount of serous fluid in right pleural cavity; adhesion at base of left lung to diaphragm; On left side a dense adhesive band between costal and parietal pleura over the site of a calcified nodule about the size of a pea. On section both lungs appeared normal except for a hard, irregular nodular mass the size of a hazel nut, in upper lobe of right lung.

Heart: Small; a few drams of serous fluid in pericardium; cardiac muscle pale and somewhat fatty; valves normal.

Spleen: Normal. Liver: Slight fatty change, otherwise normal.

Kidneys: Both show a slight parenchymatous degeneration. Generative organs: Uterus and ovaries atrophic.

Gastro-intestinal Tract: The œsophagus was cut across high up in the thorax and was carefully examined from above downwards. No dilatation or diverticular formation was present, although the walls were somewhat hypertrophied. At the site of the obstruction, just above the cardiac orifice of the stomach and on the posterior wall of the œsophagus, was a necrotic area, about the size of a half-dollar, surrounded by a number of small nodular masses ranging in size from a small pea to a hazel nut. The anterior portion of the œsophagus was normal in appearance, quite distensible and would have permitted the passage of a lead pencil without difficulty. The stomach itself was perfectly normal and free from disease. Lying between the dislocated lower curvature of the stomach and the diaphragm and upon the vertebral column, was a large, dense nodulated mass, taking in the retroperitoneal glands and head of the pancreas. This growth was entirely covered by the left lobe of the

liver which was elevated in consequence. The tumor mass extended upward under the diaphragm and compressed the œsophagus from below, although not adherent to it. The result was that the œsophagus instead of joining the cardiac orifice of the stomach in almost a straight line, was bent out of its course at nearly a right angle, for a distance of about two inches, and compressed.

Microscopic appearance: Sections from the retroperitoneal glands and œsophageal nodules were examined. The latter were composed of strands and plugs of squamous epithelial cells separated by a stroma of connective tissue. These strands infiltrated all the layers of the œsophagus and were the cause of extensive thickening. Here and there the formation of epithelial pearls in the older portions of the nodules could be made out. The structrure of the new growth in the retro-peritoneal glands could not be so clearly distinguished, as they had undergone extensive degenerative and necrotic changes. Here and there, isolated strands of epithelial cells could be made out and small collections of lymphoid cells representing the remainder of the normal gland tissues. The rest of the section was made up of necrotic masses, containing a few nuclei here and there which had undergone fragmentation.

Postmortem Diagnosis: Epithelioma of œsophagus, with metastasis in retroperitoneal glands, pancreas and cervical lymphatic glands: adhesive pleurisy of right lung: gastro-enteroptosis: right floating kidney: parenchymatous degeneration of kidneys.

Epicrisis: On looking over the result of the postmortem, it will be seen that the constriction of the œsophagus in this case was due for the most part to the extra-œsophageal pressure of the metastatic masses in the retroperitoneal glands. The œsophagus itself was quite free and permitted the passage of comparatively large solid objects. The kink produced by the peculiar conditions in the œsophagus caused the constriction to be very much greater than would otherwise have been the case. Ordinarily the stenosis produced by malignant growths is ring shaped through involvement of the entire circumference of the organ and becomes progressively the greater in the course of the disease. In this case the narrowing was due to the intra-œsophageal growth only on part of the circumference and was increased by the pressure of metastatic glands. At no time in the history of this case was the stenosis complete and the patient was able to swallow liquids, although with some difficulty, to the end. In fact, she was able to swallow a little better, the last few weeks, due no doubt to the ulceration of the intra-œsophageal portion of the tumor. At times the patient or her friends would observe that quite large bits of solid food would find their way past the stricture. Why this was so I could not understand, but a consideration of the pathological condition shows how it must have occurred. The anterior portion of the œsophagus was not diseased and therefore retained its elasticity; its muscular coat was intact and thus was permitted the passage of particles urged down by the hypertrophic œsophageal muscle above.

The mistake of considering the elevated left lobe of the liver as a probable metastic growth in it is also readily explained by the position into which it was forced by the underlying tumor mass; and the reason why it was impossible to palpate the latter is also rendered clear. From a consideration of the entire case, there was nothing which indicated to me the conditions as they were found. Possibly, in the future, they may be suspected in malignant disease of the œsophagus, if, in addition to the signs of obstruction there are present, a resistance and elevation in the epigastric region, patent œsophagus, and passage of solid food from time to time to the end of the disease.

THE NATIONAL MEDICAL REVIEW,

EDITED BY

GEORGE W. JOHNSTON, M. D., and THOMAS E. MCARDLE, M. D.,

AND

THE MILITARY SURGEON,

A SUPPLEMENT.

OFFICE: 1408 Twenty-first Street, N. W.

WASHINGTON, D. C., JUNE, 1899.

Editorial.

COMMERCIALISM IN MEDICINE.

The complaint is often heard that commercialism is filling too large a place in the practice of medicine, that the latter is losing something of its dignity and is becoming as much a trade as a profession. This may be true in some communities, but in most it would seem as if the introduction into the doctor's life of some of the elementary principles which govern the commercial or business world, would make that life more satisfying to him as an individual and add to, rather than detract from, the dignity of the profession at large.

Few young men select medicine as a vocation from philanthropic motives alone. The majority must work to live, and, however numerous and varied the motives that actuate one's choice, it is felt that the practice of the profession should at least provide a livelihood and possibly an income proportionate to the gifts and energy of the physician. But in the majority of instances it does little more than the former and the physician and not the public is to blame.

Many are the causes of failure, but among the chiefest is the absolute lack of the commercial instinct among doctors, the laxity of their financial methods, the failure to carry into their work the most ordinary business principles of daily life and finally, mistaken and quixotic ideas of ethics.

What form of commercial enterprise could exist for a year that sent out its bills so irregularly and at such long intervals as the doctor, that permitted so many unnecessary reductions therefrom, that collected such a small percentage of moneys due, that quietly and without protest submitted to so many palpable swindles and that gave such a large amount of time, stock and labor to establishments where goods, similar to those it sold, were freely given away, in many instances to persons perfectly able to pay for them.

It is this absence of or indifference to the commercial element of his profession that renders the labor of the physician so unremunerative and that, far from maintaining his dignity, belittles him in the eyes of the public he serves. And it is the rank overgrowth of the hospital and dispensary system that cripples his own resources and those of a host of equally deserving men.

Following out each day those methods that prevent or hinder the earning of

more than a mere living, it is not surprising that the physician should be ignorant of how to invest his hard won gains. Hence it is that, after a life spent in exhausting labor, many capable men leave their good name as a heritage to their children and depart else, as they entered the world, empty handed.

Medicine is a most noble and elevating profession—the foremost of all in the benefits it has conferred upon mankind. Its history is full of Fathers Damien—men who have sacrificed much, even life itself to the cause of suffering humanity. But after all is said and done, the laborer is worthy of his hire, and it is a great pity that work which is so exacting should be so illy appreciated and requited.

To introduce into the practice of medicine a moiety of commercialism—a few simple business rules, and live up to them, can do no harm. The doctor himself will surely be the better off, and the public will be less likely to regard him as a weak creature to be imposed upon at will and to be paid at convenience, for the saving of life, after the milliner's bill has been satisfactorily settled.

Books should be kept carefully and bills sent out promptly. While free service may be rendered the deserving, it should be no derogation of professional standing to resist imposition and compel payment; for no one hesitates to sue the physician even upon the most frivolous pretext. Inquiries into the financial standing of hospital and dispensary patients cannot be made too rigid and a medical man should stop to think at what cost to himself and others the title of attending physician at this or that dispensary or hospital is often bought.

The project of placing a Surgeon General or Secretary of Public Health in the Cabinet of the President of the United States, which has recently been revived, is a most commendable one and should receive the support of the whole profession. Like many excellent plans, however, this one will, we fear, prove difficult of accomplishment. The term of office will be short, the changes in policy and personnel numerous and practical politics is likely to prevent free choice and inhibit scientific progress.

Are our Washington medical schools, which have a four year course, turning out better men than they did under the old three year system? Is the class that has just been graduated in this city a better class—are the men better prepared to practice medicine—than would have been possible before? We have been told, in one instance, that this was not the case.

Four years of study are better than three, but the additional year can do nothing with a man who possesses inferior mental qualifications and training.

The fault lies not in the four year course but in the low standard governing admission and in the time wasted on specialties and side issues.

There are plenty of men who want to study medicine; pick out the good ones and leave the rest alone Abolish the didactic lecture; give a thorough training in the essentials, with a few electives, late in the course, to suit individual tastes and aptitudes; furnish more work in the dispensary—with the every day aches and pains and diseased conditions of humanity—and give some practical experience in the management of labor rather than in the rare affections and complicated disorders of special systems and in unusual capital operations.

Above all teach the student to see, to think and to talk and write intelligently and the fourth year will become of service and we will have better doctors and not so many of them.

Notices and Reviews.

THE ANATOMY OF THE CENTRAL NERVOUS SYSTEM OF MAN AND OF VERTEBRATES IN GENERAL. By Prof. Ludwig Edinger, M. D., Frankfort-on-the-Main. Translated from the Fifth German Edition by Winfield S. Hall, Ph. D., M. D., Professor of Physiology in the Northwestern Medical School, Chicago, assisted by Philo Leon Holland, M. D., Instructor in Clinical Neurology in the Northwestern University Medical School, Chicago, and Edward P. Carleton, B. S., Demonstrator of Histologic Neurology in the Northwestern University Medical School, Chicago. Illustrated with 258 engravings. Extra cloth, $3.00. The F. A. Davis, Co., Publishers, 1914-16 Cherry St., Philadelphia.

Rigg's translations of the earlier German editions have made Prof. Edinger's views well known to a large circle of American readers. Though the previously small book has now grown to larger proportions, still it presents a subject which has not previously been comprehensively treated: the comparative morphology of the central nervous system. Three parts have arisen from the original little work: parts which are so far independent of each other that students who have less interest for the more general matters and for comparative anatomy, by turning past the first two parts will find in the third a somewhat enlarged and richly illustrated edition of the old book.

MAISCH'S MATERIA MEDICA.—New (7th) Edition. A Manual of Organic Materia Medica. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms. For the use of Students, Druggists, Pharmacists and Physicians. By John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. New (7th) edition, thoroughly revised by H. C. C. Maisch, Ph. G., Ph. D., Professor of Materia Medica and Botany in the Medico-Chirurgical College of Philadelphia, Department of Pharmacy. In one very handsome 12mo. volume of 512 pages, with 285 engravings. Cloth, $2.50. net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Maisch's Materia Medica has long enjoyed the position of a standard text-book throughout the colleges of pharmacy in this country. It is universally accepted as trustworthy and authoritative. The new edition appears with every requirement for usefulness amply fulfilled and a still wider popularity is confidently predicted. The primary object of pharmacognosy is to enable the pharmacist and the druggist to recognize drugs, to determine their quality, to detect their adulteration, and to distinguish the characteristic elements of those which are closely allied. Organic drugs which resemble one another in physical and structural properties are thus naturally brought together: and the special properties of each are made the more prominent by comparison. The author has had in view all these things in making a classification of his vast mass of material. The medical properties and doses of the various drugs, and the treatment of poisoning from excessive doses of what are usually designated as "poisonous drugs" are briefly presented as matters of important information, but the book is not designed to give instruction in the therapeutical application of medicines.

THE PRINCIPLES OF BACTERIOLOGY. A Practical Manual for Students and Physicians. By A. C. Abbott, M. D., Professor of Hygiene and Director of the Laboratory of Hygiene, University of Pennsylvania, Philadelphia. New (5th) edition, enlarged and thoroughly revised. Handsome 12mo., 585 pages, 109 illustrations, of which 26 are colored. Cloth, $2.75. net. Philadelphia and New York, Lea Brothers & Co.

It seems only the other day that we reviewed the fourth edition of Abbott's Bacteriology. But this work has achieved for itself such a leading position as a text-book on its subject that we do not wonder a large edition was exhausted in two years. One has only to examine its pages to find the reason for the great popularity of this volume. The plan of this edition does not differ from that followed in its predecessors. Reference has been made to such investigations of the past two years as are pertinent to a work of this character, and essential to an understanding on the part of the reader of the lines along which the subject has advanced. Several chapters, particularly those on technique, disinfection, the specific infections, and immunity have been considerably enlarged. In some cases opinions expressed in former editions have been modified to conform to more advanced views. A number of the old illustrations have been replaced by new ones, several of which are in colors.

GERRISH'S ANATOMY BY AMERICAN AUTHORS.

Gerrish's forthcoming Anatomy by American Authors promises to be the work for which teachers and students have long been looking. Its editor, Prof. F. H. Gerrish, of Portland, has selected as his fellow-contributors leading anatomists throughout the country, wisely restricting their number to accord with the best division of the subject, gaining thereby unity in result joined with the highest authority. The list includes Professors Bevan of Rush in Chicago, Keiller of the University of Texas, McMurrich of the University of Michigan, Stewart of the University-Bellevue College in New York, Woolsey of Cornell Medical College likewise in New York, and Gerrish himself, who is not only editor but perhaps the largest contributor.

The plan of the work judiciously avoids the unimportant and exceptional, reserving its space for those portions of anatomical knowledge which are necessary to the intelligent study of physiology, surgery and internal medicine. The authors have endeavored to stand in the place of a living teacher to the student, selecting such portions as will be of actual service to the pupil in his study and to the practitioner in his subsequent clinical work, clarifying obscurities, giving most help in the most difficult parts, and illustrating everything by all available methods. Pictorially Gerrish's Anatomy will be by far the most lavish work ever offered on a subject which can already boast of many elaborately illustrated text-books. The engravings number about one thousand, their size is large enough to make visible every detail, colors have been employed more liberally than ever before, and lastly the labels of the parts have been conspicuously engraved upon them whereby a glance gives not only their names but also their position, extent and relations, obviating entirely the slow, toilsome and wasteful mental processes necessitated where only reference letters are employed.

In an early issue we shall give our readers a review of the book itself.

THE MEDICAL COMPLICATIONS, ACCIDENTS AND SEQUELAE OF TYPHOID OR ENTERIC FEVER. By Hobart Amory Hare, M. D. Lea Brothers & Co., Philadelphia. 1899.

The Review took occasion some time ago to notice the very valuable essay of Dr. W. W. Keen on the Surgical Complications and Sequelae of Typhoid Fever. Dr. Hare in the book before us treats the medical side of the same subject. As he very truly says in his preface any one who has had even a limited experience with typhoid fever has met with cases in which the manifestations wandered so far from the classical descriptions of the disease as to be puzzling and obscure, or with instances in which the malady has been so altered in its course by intercurrent affections as to be unusual and to call forth all the diagnostic knowledge and therapeutic skill of the physician. Dr. Hare's essay deals with these aberrant forms of the disease and the courses which they pursue. It is useless to add that the work is done in a thorough manner. The profession knows so well the indefatigable industry of the author that it is always aware of what it may expect from his pen and it is never disappointed. Want of space forbids an extensive review of this really valuable book, but we would like to call especial attention to his discussion of the subject of typhoid fever in children. We fully agree with him that typhoid fever in children is by no means so rare as has been supposed. The longer one practices medicine the more strongly the idea develops that such a thing as "simple catarrhal fever" does not exist as an entity, and that this term covers a multitude of diagnostic sins. The younger the child the less likely it is to have typhoid fever. In young children having typhoid fever the prognosis is usually favorable. The duration of the fever in children is shorter than in adults, but the fever itself is apt to be excessive. The question of how frequently typhoid fever does occur in children is of great importance and the matter as presented by Dr. Hare is well worthy of study.

Progress of Medicine.

Symptomatology of Arterio-Sclerosis.

In Edgren's recently published monograph upon this subject (Die Arteriosklerose, Klinische Studien, Leipzig, 1898), the following symptoms are successively set forth :

1. Increase of arterial pressure, as shown by the pulse, is the earliest and most constant phenomenon. Its existence is established by the finger, the sphygmograph, ausculation of the heart (accentuation of second sound at base) and the sphygmomanometer. 2. Dyspnœa and cardiac asthma. This phenomenon is of frequent occurrence, but is not clean-cut, since it appears to be due to different causes at different stages of the disease. In some cases it is dependent on kidney insufficience, but this association cannot explain its early occurrence. When it happens early in the disease it can only be explained by active hyperæmia of the lungs, or in some cases by an actual cardiac insufficience, as shown by its appearance after slight exertion. 3. Alterations in the urine—increased amount, albuminuria (an early and very frequent symptom), with a few casts and renal epithelia when the centrifuge is used. 4. Changes in peripheral arteries. The tortuous course is a well-known symptom of arterio-sclerosis, although the mild degrees so common in the temporal arteries have no pathological significance. Tortuous radials, however, have a very different meaning. Rigidity and thickening are usually associated with tortuosity. While it is true that we cannot predicate arterio-sclerosis of the fine cerebral arteries from tortuous and thickened radials, Edgren has never failed to find corresponding changes in autopsies. It frequently happens, however, that we get normal peripheral with diseased cerebral arteries. If we have peripheral arterio-sclerosis with normal cerebral or visceral functioning, we may assume that the larger internal trunks may be involved without participation of the terminal vessels. 5. Nerve symptoms. Various pains are often complained of, not only those of chronic rheumatism, which often coexists as a contributory cause, but special pains, such as migraine, brachialgia, lumbago, sciatica and angina pectoris, are stated to be early and not infrequent symptoms. Phenomena referable to the vasomotor system, numbness, formication, flushing and pallor, the intermittent limp, etc., are said to be very common and important symptoms. Neurasthenia is very common in arterio-sclerosis. Signs of participation of the brain are revealed by loss of memory, with inability for mental labor, vertigo, etc. In high degrees there may of course occur any of the severe symptoms of cerebral disease. 6. Cutaneous symptoms. Patients with arterio-sclerosis usually have a healthy appearance, at least in the early stages. A certain pallor is not uncommon, even with good nutrition. In advanced stages the appearance is highly characteristic. There are pallor, emaciation, cachectic appearance, the eyes staring with slight protrusion. 7. Digestive disturbances. These are common, but too indecisive to be included in the typical syndrome. 8. Changes in the action of the heart and state of the pulse. Increased frequency is a very common symptom as is sensitiveness of the heart to external influences, both physical and psychical subjective palpitation is frequently mentioned, and there is usually a mild grade of hypertrophy with increased action. Permanent tachycardia is so common that it constitutes a subvariety of the disease with some writers. The phenomenon of brachycardia or slow pulse has also been noted by many writers. The gallop-rhythm (double second sound) is often present, but is rather characteristic of contracted kidney. Irregular heart-action is likewise very frequent in arterio sclerosis, but no special laws can be laid down for particular kinds of altered rhythm. 9. Angina pectoris. The relationship of this affection to disease of the coronary arteries is sufficiently well known. From the 10th to the 14th section, inclusive, the author gives the

symptomatic value of cardiac hypertrophy, valvular disease, aortitis, aneurysm and the various pulmonary symptoms. 15. Heart insufficience and asytolia. This phenomenon appears sooner or later; signs of its presence are lowering of arterial and increase of venous pressure, accentuation of second pulmonic sound, oliguria, stasis in numerous organs (œdema of extremities, exudates in cavities, pulmonary œdema, etc., etc.), venous pulse in neck, high degree of dyspnœa. 16. Aneurysm and rupture of the heart. 17. Various hæmorrhages from the nose, lungs, kidneys with a purpuric eruption especially seen on the backs of the hands, and excited by very slight trauma. The skin in these cases presents the appearance of senile involution. 18. Uræmia with its numerous symptoms. 19. Changes in the eyes; diminished vision is quite common. The foregoing symptoms were compiled by the author in a study of 124 cases of arterio-sclerosis. As this affection is perhaps the most common and important of all chronic diseases and is almost synonymous with premature and natural senility, the fact that the average textbook on practice uses less than 500 words in describing the symptomatology of so important a malady should stimulate the practitioner to familiarize himself with such studies as this of Edgren's. *Med. Rev. of Rev., N. Y., 1899, v, 363.*

Sheet Rub in Functional Nervous Diseases.

H. T. Patrick (*Chicago Medical Recorder, February, 1899*), before the Chicago Medical Society, December 21, 1898, recommended the sheet rub in funtional nervous diseases. The success of this mode of treatment depends upon its being done correctly. The rub is given at the bedside. Two sheets are used, and these must be placed in such a manner as to admit of instant handling—either over the end of a chair or the foot of the bed. One sheet is dipped in cold salt water, as a better reaction is obtained from salt water than from clear. The patient is taken from the bed and the cold sheet instantly thrown around him. After briskly and vigorously rubbing him through this sheet, it is dropped to the floor, and he is quickly rubbed through the dry one. He then gets into bed, covers himself well, and puts out his feet to be dried, and lapped to promote circulation. To be properly done, this rub should not occupy over a minute and a quarter; if three minutes are taken, the rub is not properly given. It is exceedingly hard work and completely exhausts the nurse or physician who gives it correctly. It is usually given before breakfast. Dr. Patrick gives the first rub himself, and the second is given in his presence, that his instructions may be fully understood. He finds that it quickens circulation, assists the patient to gain in weight, helps in keeping extremities warm, and aids digestion. He thinks that certain elements in the treatment are particularly beneficial in nervous diseases. It produces profound mental impression, exceeding that of any other mode. There is sudden shock, quick reaction, and the feeling of comfort and warmth following impresses the patient with the fact that he is getting well. The author has never failed to obtain reaction, even in patients who had to be held up while taking the rub. *Western Medical Review.*

Dietetic Treatment of Arterio-Sclerosis.

The proper quantity, particularly also quality of food are to be considered. The food must produce no irritation of the vessels by accumualtion of deleterious products of metabolism (leucomains, ptomains) or through nucleo-albumin in certain kinds of meat. The production of gas by decomposition in the intestines must not be excessive. White meat, veal, chicken, lean ham, lamb, well-cooked beef, lime-containing substances which possess a minimum of albumin, such as lung, liver, spleen, kidney, soft cartilages of young animals, the gums of oxen. Spinach, cauliflower, fresh string-beans, sprouts. The least gas-making substances. Leguminous substances are

to be avoided. Albumin in non-voluminous artificial prepartions, sugar, eggs, and soups of medium strength, compotes. Sweet, sour or buttermilk. A moderate amount of food only, at any one time, frequently administered. Patient should never altogether satisfy his hunger. Strong coffee and tea are absolutely prohibited. Small quantities of Moselle or red wine are sometimes permissible. Fresh well-water and mineral waters that contain a minimum of carbon dioxide, or such as produce an increased excretion of urates (alkaline water, Vichy, Fachinger) are allowed. Eating and drinking must be distinctly separated; only in exceptional instances is it permissible to take any fluid during the meal, and the comsumption of fluids must be carefully regulated in such a way that for two days all the fluids (water, beer, wine, coffee, soup, etc.) and the corresponding excretion of urine are measured. The smaller sum is substracted from the larger, and the remainder represents how much more fluid the organism retains or excretes in excess of that which was administered. In advanced arterio-sclerosis, the evening meal must be very much diminished and taken rather early; no more than a plate of soup with one or two eggs, or a small piece of meat with a roll is advisable. In obesity, fats and carbo-hydrates must be diminished. Exercise is important in the treatment; walking and climbing and passive gymnastics (Zander's apparatus). In walking the patient must inspire and expire regularly. Movements must never be carried out when the stomach is filled. After his meal the patient is to rest from half an hour to an hour; smoking and sleeping are not allowed. For summer resorts, the mountains for early cases, the seaside for advanced; Italy in the spring, North or East Sea in the summer, Abruzzo in the fall, and Egypt in the winter. The baths of Wildbad, Baden-Baden, Teplitz, and in severe cases the carbon dioxide baths of Nauheim and Marienbad work very favorably. Bicycle permissible only in the very earliest stages. All mental and physical exertions, as well as excitement (especially sexual) are to be avoided.—Dr. H. Bock, Zeitschr. f. diat. u. Physik. Therap. ii. (*Alienist and Neurologist, St. Louis, 1899, xx, 278.*)

Technique of Ether and Chloroform Anesthesia.

The condition of the circulation during anaesthesia. Before beginning to administer the anaesthetic locate the facial or temporal artery. During the course of anaesthesia these arteries are to keep you informed of the strength and of the rate of the heart's action. The color of the face, lips and ears will also give you information as to the heart's condition. The fall of blood pressure, which is the normal condition of anaesthesia with chloroform, is due to the action of chloroform on the vasomotor center in the medulla oblongata. During the stage of excitement the pulse is accelerated, a frequency of 144 pulsations to the minute has been reported. Usually the more marked the excitement the greater the frequency of the pulse.

In the stage of surgical anaesthesia the pulse loses in frequency, and acquires fulness and compressibility. If the administration is now continued with care, the pulse will not lose these qualities during the entire duration of the anaesthesia. In the stage of paralysis the pulse is rapid, feeble, fluttering, finally ceasing or stopping suddenly without warning. When pulse becomes rapid, 130 to 160 in children, 120 to 140 in adults, resort to stimulation; use strychnine, sulph. gr. 1-20; many use Tr. Digitalis, m. xv. to xxv. If the pulse seems feeble, slow, irregular, intermittent, the anaesthetic must be withdrawn and fresh air freely admitted till improvement occurs. Respiration and circulation may cease simultaneously on section of a nerve.

There is an increased frequency of the pulse. When, though the thorax is rising and falling regularly, no air is entering the lungs; when patient is about to vomit (pulse also becomes irregular previous to vomiting;) after consider-

able loss of blood; during stage of excitement; during manipulation of considerable portion of intestines; during dilation of anal sphincter; during operations in cervical regions, when cardiac accelerating branches of pneumogastric may be irritated; at the beginning of anaesthesia pulse may be rapid from fear.

There is a decreased frequency of the pulse in cranial operations; in operations in the cervical regions, when cardiac inhibitory branches of pneumogastric nerve may be irritated; in case pressure or traction on the diaphragm, during gastric operations.

Sudden stoppage may appear, momentarily, from any of the following causes:

(a) Severing a nerve in amputation.

(b) Sudden escape of the contents of a cystic tumor.

(c) Upon removal of a large abdominal tumor. In frogs exposure and irritation of the intestines will stop the heart.

(*d*) Pressure on testicle or spermatic cord, during hernial operation.

(e) Ligation of an ovarian pedicle.

(f) Spasmodic contraction of diaphragm preceding vomiting.

(g) Dilation of anal sphincter. Heineck (A. P.) *Med. Standard, Chicago, 1899, xvii, 224.*

Yeast in the Treatment of Blennorrhea.

A new treatment for vaginal blennorrhea is described by Dr. Landau in the *Deutsche Medicinische Wochenschrift.* His object was to discover a method which without being deleterious to the patient would nevertheless be capable of destroying gonococci and their toxic products. In his experiments he acted upon the principle of substituting for the gonococci cultures of other microorganisms of a greater vitality and power of propagation, and he found that common yeast fulfilled these requirements. Of forty cases treated in this way the blennorrhea was completely cured in more than half, sometimes even after only one or two applications. In a second series temporary relief was effected, but the blennorrhea reappeared; in a third series the catarrhal affection was diminished; and in a few cases there was no apparent improvement, although the patients declared that they felt better. The yeast was obtained from a brewery, and after being diluted with a small quantity of beer, was injected into the vagina with an ordinary syringe and retained by a tampon closing the orifice of the canal. The injection was repeated after two or three days, and the treatment was continued for several weeks. *Medical Age, 1899. xvii, 400.*

The Cause of Blindness in Children.

Dr. Förster, director of the Ophthalmological Clinic at Breslau, has recently published some instructive statistics regarding the causes, other than opthalmia neonatorum, of blindness in children. According to these, injury to the eyesight, with consequent blindness, is mostly occasioned by carelessness, more than twenty per cent of these cases being caused by playing with sharp instruments, and twelve per cent by malicious injury, such as blows, stone-throwing, whipping, and unsuitable means of correction. Similar results are shown by the statistics of most other ophthalmological clinics. Boissoneau, of Paris, reports that of nine hundred and thirty-nine children who were blind in one or both eyes, more than three hundred and fifty were injured by shooting and by the explosion of percussion caps. *N. Y. Med. Rec., 1899, lv, 725.*

Formalin in the Treatment of Inoperable Malignant Growths.

William Mitchell, in the *British Medical Journal* of February 11, 1899, describes a sarcoma of the cheek about four inches in diameter, which presented a denuded bleeding surface. It was treated with a 20 per cent solution of formic aldehyde. After the application the tumor was covered by a sheet of gutta-percha to prevent evaporation. The bleeding immediately ceased, and there was a hardening and necrosis of tissue extending about a fourth of an

inch into the tumor. The remedy was again applied and the curetting repeated until the tumor was entirely removed. The unfavorable features of the treatment were considerable pain and some edema of the surrounding tissue. *Medicine, Detroit, Mich., 1899, v, 417.*

Washing-soda for the Preservation of Surgical Needles.

At a recent meeting of the New York Surgical Society, Dr. Dawbarn (Annals of Surgery, February, 1899,) recommended the use of a saturated solution of washing-soda in water for the purpose of preserving surgical needles. He stated that this method of keeping the needles and cutting instruments untarnished was superior to any other which had thus far come within his experience He showed needles kept bright this way for a year and more. Most of the other methods are open to some objection. As to keeping them in carbolized oil, this to some extent dulls the points of the needles. Lysol being a dark solution, the needles are not easily seen in it; calcium chloride in a closed place to keep the air dry, with the needles lying on a dish near it, produces a curious tarnish almost like rust; in Fuller's earth or other powders it is difficult to find the smaller needles. A solution of borax in water, as recommended by M. Marechal, will also rust the needles as soon as the thin plating which all needles have is worn away. Albolene is a good preservative, its only objection being the unpleasant oiliness. Calcium chloride in absolute alcohol is effective, but comparatively expensive. Washing-soda dissolved in water to saturation is cheap and effective. *Medicine, Detroit, Mich., 1899, v, 416.*

The Clinical Significance of Oxaluria.

Dr. Robert F, Williams (*Medical Register*, April 15th), records cases of oxaluria from a consideration of which he makes the following deductions: 1. Whereas the appearance of oxalates in the urine—excluding their ingestion in foods—is due to a derangement of digestion or metabolism, this derangement probably has its cause in many cases in functional nervous irregularity, which may or may not be so great as to produce general nervous smyptoms; and, if these are present, they are not necessarily caused by the oxalates. 2. The condition causing the appearance of oxalates in the urine may produce symptoms closely simulating the constitutional smyptoms of Bright's disease. 3. The excretion of oxalates by the kidney for a short while may occasion no local disturbance of that organ, but if continued may, by irritation, cause the appearance of albumin and casts with lessened urine, corresponding to the urinary symptoms of Bright's disease, and, if unchecked, may lead to permanent destruction of kidney tissue and to true Bright's disease. 4. In all suspicious cases in which the nephritic symptoms are accompanid by the appearance of oxalates in quantity, diagnosis should be held in abeyance and the oxaluria be overcome by appropriate remedies to exclude this as a possible cause of the symptoms before making a positive diagnosis and pronouncing a necessarily hope-dispelling prognosis.—*N. Y. Med. J., 1899, lxix, 719.*

Diagnosis of Typhoid Fever.

In a paper by Dr. Stuart McLean of Richmond on "Microscopical Diagnosis of Typhoid Fever," the author emphasizes the following points:

1. The absence of leucocytosis is strong evidence that an existing fever is typhoid, malarial fever being excluded by absence of the plasmodium.

2. If leucocytosis does occur in the course of an unmistakable case of typhoid it indicates some untoward complication.

3. Both feces and urine should be carefully disinfected throughout the course of the disease. Too often directions to this effect are omitted by attending physicians.

4. Widal's reaction is diagnostic in many cases in which, at the time, the clinical findings are obscure.

5. The value of serum diagnosis, as well as other methods, must be deter-

mined by the practitioner who controls the case upon whom the tests may be made.

Dr. McLean states that in appendicitis with pus formation there is always leucocytosis, varying from 10,000 to 50,000 white cells per cmm. This differentiates it from such diseases as typhoid fever, floating kidney, fecal impaction, ovarian neuralgia, extra-uterine pregnancy, and hepatic or nephritic colic which are not accompanied by any increase in the number of white corpuscles.

In cases where, for any reason, an operation cannot be performed a count of the white corpuscles is valuable in determining both the extent of the disease and its probable termination. Successive blood counts afford a reliable index of the progress of the disease. In cases where there is an abscess well walled off, the leucocytosis remains stationary. If the disease be progressing toward an unfavorable termination—*i. e.*, increasing pus formation, the leucocytosis correspondingly increases, counts every two to four hours, showing changes more or less marked depending upon the rate of pus formation. On the other hand, if the purulent material is being absorbed, discharged into the bowels, or evacuated in any manner, the blood count shows an immediate diminution in the number of leucocytes, rapidly approaching normal. —*Brooklyn M. J., 1899, xiii, 399.*

The Gynæcological Aspect of Bicycling.

Dr. J. W. Ballantyne, in a recent number of the International Medical Journal, has made a most complete digest of the consensus of opinion on this subject. He divides the indications for bicycling into groups; those in which it is recommended, and those in which it may be permitted.

It is to be recommended in :

1. Uterine congestions.

2. Amenorrhœa, in relation with arrested development of uterus or ovaries, with anæmia, chloro-anæmia, digestive disturbances, neurasthenia, chronic diseases, physical or moral shocks, chills, falls, etc.

3. Dysmenorrhœa of the nervous type.

4. Dysmenorrhœa with congestion of the uterus and ovaries.

5. Vicarious menstruation.

6. Fibroid tumors, after the termination of the hæmorrhagic period.

It is to be permitted in :

1. Mechanical dysmenorrhœa, congenital or acquired, and in membranous dysmenorrhœa.

2. Uterine displacements (prolapse, flexions, and version).

3. Chronic metritis, with post-partum or post-abortum subinvolution, which is no longer painful and which is in process of cure, but with moderation.

4. Leucorrhœa in anæmic, chloro-anæmic, and delicate women.—*Am. J. Gyn. & Obst., N. Y., 1899, xiv. (Therapeutic Forum.)*

Stitch Hole Infection.

Troller finds, after extensive investigations (Cbl. f. Chir.), that the infection usually proceeds from the skin, and that the most favorable results were obtained with aluminium bronze wire for sutures, which is antiseptic in itself. *Med. Standard, Chicago, 1899, xxii, 234.*

Surgical Hints.

One of the most common symptoms of strangulated hernia in children is retention of urine. Always empty the bladder with a catheter before attempting reduction, if the child is unable to urinate spontaneously.

If you suspect rupture of the bladder, immediately inject a pint of warm saline solution. If no rupture is present the water will all return, at first with considerable force. If there is a rupture it will not return, and you will have diluted the irritating urine and obtained a positive diagnosis.—*Internat. J. Surgery, N. Y., xii, 182.*

OF THE DISTRICT OF COLUMBIA.

Continued from May number.

Dr. Pool said that a good point shown by the paper was that the use of the serum was not productive of any harm. He was sceptical, however as to its real value as a remedial agent. The absorption of the germs and toxins may produce serious effects, and destroy the patient; but if the effects are mild and the patient recovers the serum may get undue credit of having effected the cure. He had little faith in the efficacy of the serum after the germs had once invaded the lymphatics, though favoring its further trial.

Dr. Moran, in closing the discussion said that Dr. Thompson had brought out the distinction between septicaemia and sapraemia. Dr. Moran had remarked several meetings ago that this distinction should always be made. In sapraemia the organism lives upon the surface, while in septicaemia it goes in beyond the reach of local measures. He could not yet speak positively as to the value of the serum. In judging it, we must always consider the virulence of the organism and its environment. As to the length of time the organism is found in the blood and lochia, most authorities say that it disappears in a few weeks, in the lochia. The exact dose of the serum is not as yet fixed. The tendency is however to give it in larger doses than formerly.

Meeting of January 25th, 1899.

Dr. Sowers, Vice President in the chair.

Dr. Prentiss read the paper of the evening. Subject: Bermuda as a Winter Resort: Illustrated by lantern slides and specimens of natural history. (This paper has not been received for publication but may appear in a subsequent issue. Ed.)

On motion of T. C. Smith, a vote of thanks was tendered to Dr. Prentiss for his excellent and interesting paper.

Meeting of February 1, 1899.

Dr. G. N. Acker, Vice President in the chair.

Dr. S. S. Adams moved that Dr. Busey's resolution, passed by the Society January 18th, 1899, be reconsidered. Carried.

Dr. S. S. Adams moved that the resolution be adopted, and in accordance with the wish of Dr. Busey, laid upon the table. Carried.

The Board of Censors having reported favorably upon Drs. Edw. C. Carter, U. S. A., and Dallas Bache, U. S. A., for membership by invitation, the Secretary was directed to cast the ballot for them in the affirmative.

The committees for 1899 were announced as follows:

Public Health: Dr. Chappell, chairman; Drs. Geo. W. Johnston, Claytor, Balloch, R. T. Holden, D. Olin Leech, and Ruffin.

Essays: Drs. Smith, Pool, Parsons.

Editing Committee: Drs. W. W. Johnston, Kober, J. D. Morgan.

Microscopy: Drs. Lamb, Acker, Vale.

Directory of Nurses: S. S. Adams, Barker, McLaughlin.

Legislation: Drs. S. C. Busey, W. W. Johnston, Cook, McLain, Magruder, Kleinschmidt, Sowers, Woodward, Reyburn.

"OEDEMA OF THE PARALYZED LIMBS IN HEMIPLEGIA." CASE AND SPECIMEN.

By Charles Lewis Allen, M. D.

(Abstract.)

In hemiphlegia from gross brain lesion, it is not uncommon to find some

slight swelling with glossiness, and pigmentory changes in the skin of the paralyzed limbs, but oedema to the extent observed in the following case, is exceedingly infrequent.

M. K. a negro aged 55 years, had a stroke of paralysis developing rather slowly about December 17th, 1897. The paralyzed extremities are said to have become gradually smaller, and when he was admitted to the Freedman's Hospital, on March 17th, 1898, it was noted that he had complete hemiplegia with oedema of the paralyzed limbs. He was first seen by the writer on October 12th, 1898. The patient was then completely bedridden, and in a state of advanced marasmus.

There was complete left hemiplegia. On movement the face was drawn to the right. The head was drawn to the left by a contracture. The left hand was flexed at the elbow, and held against the body, the fingers of the left hand were pressed into the palm. The left leg was partially flexed at the knee and everted. There was enormous swelling of the left hand and arm, extending about as high as the upper third of the humerus. This swelling was soft, pitted on pressure and was not inflammatory. It was most marked in the forearm and hand. The skin over the affected area was harsh and glossy, and contained some areas of increased pigmentation. The left leg and foot were also swollen. The swelling extended up to the middle of the thigh, but was less marked than in the arm. Measurements of the right and left extremities taken at corresponding points, showed a marked difference, the left elbow for instance measuring 4¾ inches more in circumference than the right. There was no involvement of the eye muscles, and no disturbance of speech. On account of the condition of the patient, sensation could not be accurately tested. No heart lesion could be discovered but the arteries were somewhat rigid and thickened. There was neither phlebitis nor thrombosis of the vessels of the affected limbs. No urine could be obtained for examination.

The patient died October 24th, 1898. Autopsy by Dr. Lamb, 17 hours after death showed:

On the left side a collapsed lung, with old pleural adhesions, and recent pleurisy, and some recent pericarditis, especially marked on the left side. Dissection revealed nothing capable of interfering with the circulation, in either axillary, brachial or femoral vessels. The intestines showed some spots of congestion, but no ulceration. The liver was congested, spleen small and pale, kidneys enlarged, and somewhat congested. Upon opening the skull, the dura was found adherent along the superior longitudinal sinus, and the pia arachnoid showed some milkiness along the vessels. The whole right hemisphere felt softer than the left especially in the rolandic region, and about the ascending limb of the fissure of Sylvius. There were marked areas of softening about the lower end of the fissure of Rolando, and in the parietal and occipital lobes on the right side.

On section a large cyst, having well defined walls, and filled with a grumous material, was found to occupy the region of the internal capsule, and to pass forward into the frontal and backward into the occipital lobe on the right side, destroying most of the lenticular nucleus. The arteries at the base were of good calibre. Microscopical examination showed

the usual descending degeneration of the pyramidal tract, as well as degeneration of cerebro-pontine fibres on the right side, some endarteritis of the vertebral arteries, more marked on the left, and slight interstitial nephritis. Sections of the left brachial plexus, and anterior crural nerve showed no neuritis. The pathological findings do not explain the occurrence of the localized oedema.

Examination of the literature shows but few cases of the kind recorded.

Early Degeneration of the Pyramidal Tracts as Shown by the Marche Method.

Dr. Allen presented some sections of the brain axis and spinal cord, from a man of 50 years, who died 5 days after an apoplectic stroke. The autopsy showed a large blood clot, with extensive destruction of substance in the left hemisphere. The sections prepared by the Marché method showed descending degeneration of the pyramidal tract to be already quite advanced.

Dr. A. F. A. King read the paper of the evening. "The mosquito and the malarial parasite" published by the author in the NATIONAL MEDICAL REVIEW, February 1899.

DISCUSSION.

Dr. KOBER congratulated Dr King and the Society on the fact that experimental research is adding almost daily to the strength of the mosquito theory in the transmission of the malarial parasite. It would be well for the Society to act upon Dr. King's suggestion for the appointment of a commission by the Government to study this subject, and it certainly would add lustre to American Medicine if men of Dr. Theobald Smith's type could demonstrate the extra corporeal habitat of the malarial parasite.

As it is now many points are obscure especially in reference to periodical appearance and disappearance of malarial diseases in certain sections. It is also an interesting but unexplained fact that an individual may remain free from ague for years, the disease reappearing after he has undergone a surgical operation. Paget noticed this many years ago. Dr. Kober's attention was called last fall by Dr. Borden to a considerable number of soldiers who were attacked with malaria after surgical operations. This would seem to indicate that the plasmodium may remain latent in the body, until the tone of the system is lowered.

Dr. BEHREND said that he had also noted that many soldiers who had not had malaria while in Cuba, would be attacked with the disease even as late as two months after their return to this country. Moreover, these were very severe cases, some of the worst he had seen. The attacks would recur, and quinine became less and less efficacious. This suggests him the question how long can the plasmodium remain latent in the system.

Dr. PHILLIPS said he had nothing to say against the mosquito as a host for the malarial germ and as a means of its propagation and dissemination outside of the human body. He thought Dr. King had shown the probability of such a condition being actually the case. The idea that malaria was solely due to inoculation by mosquito bites or otherwise, however, did not seem to be in accord with empirical knowledge. Malaria was an infectious disease and the evidence was pretty positive in showing that the infection was transmitted by both air and water.

At a recent meeting of the American Climatological Association in discussing the subject of malarial infection, Dr. W. F. Coleman of Augusta, Ga. stated that of his own personal knowledge, in a certain community in which he practiced, malaria had been very prevalent till the introduction of artesian wells as a source of water supply; since then malaria had virtually disappeared. At the same meeting, Dr. Newton of Montclair N. J. at one time of the U. S. Army, while stationed at Fort Sill, Ind. Ty. had observed that the soldiers in the different

barracks were not equally afflicted with malaria. The barracks buildings were, with the exception of the most distant building, extended in a line at right angles to the course of the stream on which Fort Sill is located, which line also coincided with the long diameters of each building except that of the most distant building the long diameter of which was parallel with the stream. Malarial disease was most prevalent among the soldiers in the building nearest the river and diminished as the distance from the water increased, except in the case of the building parallel with the stream, in which there were nearly as many cases as in the nearest building.

The explanation of the facts observed was accounted for on the supposition that the germs of the disease came from the soil near the water and were conveyed by the wind when blowing from that direction, and as a probable matter of course the nearest buildings received the greatest number of germs and so on, till the farthest one away, which, however, presenting a broadside to the wind, received almost as many as the nearest one.

Here were simply two well authenticated statements as to malarial infection, one by water and the other by air.

In the first inoculation was out of the question.

In the second inoculation did not seem plausible as there was no reason for supposing that mosquitos infested one set of buildings more than another.

Dr. THOMAS said that he had noticed in hospitals in the late war, that although many of the typhoid patients were covered with mosquito bites, few developed malaria. One did however. In this case after the temperature had been normal a week, malarial paroxysms began to appear every second day. The blood examination was unsatisfactory. The affection readily yielded to quinine.

Dr. REYBURN said that the mosquito could not be the only medium of infection of man. He remembered one place where malaria was formerly very prevalent. With improved sanitation and hygienic conditions, the disease almost disappeared. Also a person sleeping in certain swamps is almost sure to contract malaria, although there may be no mosquitoes. The mosquito may be one mode of carrying the plasmodium to man but not the only one.

Dr. KING, in closing the discussion, asked Dr. Phillips if the three dwellings nearest the water were so placed as to present their gable ends, without windows, towards the river, while the fourth and more remote dwelling, placed at right angles to the other three, presented a broad-side of windows toward the water. Dr. Phillips replying in the affirmative, Dr. King said that would explain how the mosquitoes might carry infection to the fourth and most remote dwelling while the other three buildings escaped: they were attracted by lights in the windows of the fourth house.

In reply to Dr. Ward, Dr. King said: in turning up the soil, as in digging for railroads and canals, pits were left in which pools of water accumulated: in these pools the mosquitoes deposited their eggs and multiplied in large numbers. In Hong Kong which was a barren rock, malarial disease was unknown until granite was excavated for building purposes. Here again pools were left to form nurseries for mosquitoes: it could scarcely be held that malarial vapours escaped from solid granite.

In reply to Dr. Thomas, Dr. King said: the mosquito which had bitten the typhoid fever patients were, in all probability not the particular species of the insect that conveyed malarial infection.

In reply to Dr. Reyburn, Dr. King did not claim that mosquital puncture was the only means by which malarial infection could be conveyed, but he agreed with Dr. Bignami that at present it was the only method which had been demonstrated by experiment.

MEETING OF FEBRUARY, 8, 1899.

Dr. SOWERS, Vice President, in the Chair.

Dr. MARY A. PARSONS turned over to the Society a book "Within the Purdah,"

which was presented to the Society by the author, Dr. Armstrong Hopkins.

Dr. S. S. Adams moved that the corresponding Secretary be directed to acknowledge the receipt of the volume, with the thanks of the Society. Carried.

Dr. Sowers stated that Dr. Busey had expressed regret that his continued ill health prevented his attendance at the meetings, and he hoped soon to be able to resume his duties.

Dr. Acker presented the following pathological specimens:

(1.) *A tumor of the anterior thoracic region.*

(2.) *Porencephalus:*

Dr. S. S. Adams presented a case and specimen of:

(3.) *Sarcoma of the cerebellum.*

The specimen consists of a brain weighing about 39 oz., showing dilatation of lateral and third ventricles which in a recent state were distended with pale fluid. Cerebellum enlarged; its middle portion converted into rather soft tumor which involves also much of each hemisphere and by extension has involved some portion of both pons and medulla and practically obliterated the fourth ventricle. Above the tumor is a broad flat cavity which contained yellowish fluid and whitish flocculi. The ventricular dropsy is probably the result of pressure on the Venae Galeni.

Dr. Bovée presented the following specimens:

1. *Infected silk ligature.*
2. *Pus Tubes:*

Dr. Bovée referring to the first of his specimens said it was an infected ligature from the pedicle of a tube and ovary removed 13 months before. Those who use silk or other form of non-absorbable ligature material often have fistulæ following operations. He remembered one case in which such a fistula existed for over two years before the ligature came away. In this case the fistula appeared in the line of the incision shortly after the operation and continued until the ligature came away. He had fished for it with a small crochet needle fully 25 times without getting it. In pelvic pus cases ligatures were especially liable to become infected and those made of non-absorbable material will give more trouble than the animal ligature.

His other two specimens were examples of "conservative pelvic surgery." In the first case he had removed large pus tubes, from a woman about 30 years old each containing several ounces of pus and had left both ovaries unmolested. One of them seemed to be absolutely normal and the other contained a blood cyst which was not interfered with as it might be connected with the menstrual period which was close at hand.

In the second case, a woman of 20 years of age, he had removed both appendages and the body of the uterus for pus, he having been told by her physician that she had suffered with gonorrhoea. There was an abscess in one ovary, and the other was very cystic. One Fallopian tube at its junction to the uterus was one and one-fourth inches in diameter and it was not thought wise to leave a uterus infiltrated as this was with pus.

Dr. Acker asked how these two cases illustrated conservative surgery as Dr. Bovée had stated.

Dr. Bovée replied leaving in the ovaries in the first case prevented premature menopause and its accompanying unpleasant symptoms while in the other case a clean removal, especially as it was gonorrhoeal, had removed the diffi-

culty as less work would not have done. Both patients would have better health as a result of the particular operation done in each case.

Dr. Sowers inquired whether the ovum was liable to cause trouble in these cases where the tubes were removed. Dr. Bovée in reply said that ordinarily it gave no trouble. If, however, a cirrhotic ovary were allowed to remain the expulsion of the ovum through the tough membrane covering the ovary sometimes gave rise to severe pain. As to the possibility of pregnancy in this case he would say the manner of removal of the tubes removed such possibility.

Four cases were on record and another would soon be published by Dr. Harrison, of Richmond, in which conception and delivery at full term occurred considerable time after the supposed removal of both appendages. But in these the explanation was that a small amount of ovarian structure was left and that communication between the uterine and abdominal cavities remained through the tube stump. This resulted from ligatures cutting through the tube structure or by their slipping off the pedicle.

It is prevented as in the case presented, by cutting out of the uterus a wedge shaped piece containing the uterine portion of the tube and suturing muscle to muscle and peritoneum to peritoneum over it.

Meeting of February 15, 1899.

Dr. G. N. Acker, Vice President in the chair.

Dr. Smith moved that on account of the small attendance due to the inclement weather, the society adjourn, and that Dr. Munson be requested to read his paper at the next meeting.

Meeting of February 22, 1899.

Dr. Sowers, Vice President in the chair.

The resignation of Dr. W. W. Johnston as a member of the Editing committee was read and accepted.

The Chair stated that the President had appointed Dr. Llewellyn Eliot to serve in his place.

Dr. L. A. La Garde U. S. A. was nominated a member by invitation by Drs. Kober and Nichols.

Dr. Lamb presented the following pathological specimens with report of cases :

1. *Typhoid fever(?) ; intestinal perforation ; hemorrhage into lung.*

The first specimen shows multiple mainly subpleural hemorrhages in the lung ; these hemorrhages are relatively small and for the most part surround the bronchial tubes, in the lumen of which is an exudate ; at the base of one lung was a large area of red hepatisation with recent lymph on corresponding pleura. The patient was a colored girl 17 years old, a domestic. So far as can be learned she was sick only four days ; said to have had a "cold". The third day she was admitted to hospital with peritonitis and died on the 4th day ; the temp. ranged from 100° to 103° ; pulse 126 to 154 ; resp. 28 to 40. The necroscopy showed the following lesions ; no abdominal distension ; brain normal; hemorrhages as described in both lungs, mainly the right ; the heart normal. The abdominal cavity, especially in the right ilio-lumbar and pelvic regions contained a faecal extravasation, yellowish

green lymph and recent adhesions ; no tympanites. Liver, spleen, pancreas and stomach normal. In the lower ileum were several ulcers, varying in size, their long axes directed rather transversely, their edges thick and undermined ; the ulceration penetrating to the muscular coat and in one place had perforated the peritoneal coat ; this perforation was about one foot above the ileo-colic valve. The corresponding mesenteric glands were enlarged and reddened. Large intestine, including vermiform appendix, normal. Kidneys, bladder and internal genitals not examined.

This case was particularly interesting to me. The girl attended to her work until four days before death ; there is practically no history of illness. The intestinal ulceration suggested at first a tuberculosis, but there was a total absence of tubercular disease elsewhere and microscopic examination demonstrates that the ulcers are not tubercular. Neither is there any clear evidence of typhoid fever ; the spleen was normal. The multiple hemorrhages in the lung and the area of hepatisation are apparently the results of infection as shown by the fact that the streptococcus was found therein. There seems no reason to doubt that this infection was from the intestinal disease. The whole picture is however somewhat anomalous.

(2.) *Splenic Leukemia ; croupous pneumonia ; valvular disease of heart ; embolism of brain and spleen.*—The second specimen shows red hepatisation of lung with commencing pleurisy as shown by the cavity. The patient was a white man 28 years old who had had measles, mumps, chills and fever and rheumatism; but was comparatively healthy Sept. 30, 1898 when he was taken sick with chills and fever ; and for sometime afterwards he had a daily chill. Was admitted to hospital Nov. 4th ; diagnosis malaria and aortic regurgitation ; there was dyspnoea, feet and legs swollen at times and a diastolic heart murmur. A few days after admission he had partial aphasia. Died Dec. 14th, 2.5 months after being first taken sick. The necroscopy showed him to be well nourished ; with some jaundice. The first and second temporal convolutions of the right side showed yellow atrophy ; left lateral ventricle somewhat dilated. There were general old intrapericardial adhesions, hypertrophy and dilatation of heart both sides, with chalky and fibrinous vegetations on aortic and mitral valves ; these valves, especially the mitral, were rigid. Aorta normal. Right pleura contained about 2 qts. of straw-colored serum with flakes of lymph; pleura opaque ; upper lobe of lung somewhat collapsed, posterior two thirds of lower lobe in red hepatisation. Left lung generally collapsed. Some old pleuritic adhesions each side. Liver congested. Pancreas normal. Spleen 24 oz., lymphoid follicles enlarged ; many yellowish white peripheral infarctions varying in size and shape. Stomach and intestines appeared normal. Kidneys congested in patches.

Here then we have a case of leukemia; with valvular disease of heart which has caused the splenic infarction and also in all probablity the atrophy of brain, from embolism ; the case ending with a serous pleurisy with some hepatisation.

(3.) *Gray hepatisation and abscess of lung.*—The third specimen shows abscesses of lung surrounded by solidified lung tissue with corresponding mem-

branous pleurisy. The patient was a mulatto woman 80 years old; said to have been well until November 1st, 1898. Admitted to hospital November 23rd with diagnosis of pleurisy and died on 28th. Both lungs showed abscess cavities in lower lobes. The heart was much enlarged, weighing 18 ounces, but except some fatty changes in aortic valve seemed normal. Fatty and calcareous changes in aorta. Old adhesions of liver to diaphragm and colon and some congestion. Spleen atrophied. Pancreas normal. Stomach and intestines appeared normal. Kidneys small, granular; cortex diminished in thickness. Senile changes in internal genitals.

The abscesses seem to have followed hepatisation.

(4.) *Cancer of Pleura.*—The 4th specimen shows rather a rare form of cancer of pleura and lung; the pleura presents a great number of irregular whitish patches which appear to be simply local thickenings; but many if not most of them extend into the lung substance and there are no adhesions. Both lungs were involved. The patient was a colored woman age 33 who had had pains in right side of chest and between scapulæ; with dry cough and fever at night; and vomited greenish fluid. She went into hospital February 1, 1899 and died on the 9th. During her stay there she continued to have vomiting and had also delirum and involuntary evacuations. The temperature ranged from 97° to 98.6°; pulse 92 to 124; respiration 18 to 30. The necroscopy showed some emaciation; cancerous nodules in right breast but none in axilla. Brain normal. Pleuræ dry; no adhesions; upper lobes of lungs anemic; lower collapsed; pleuræ as described. The ribs were quite brittle. Heart normal except a little fatty degeneration of mitral valve. Similar degeneration of aorta. Liver studded with cancer nodules; gall bladder full of greenish bile. Spleen very small and dry. Pancreas normal; glands above its upper border enlarged and cancerous. Stomach and intestines normal. Kidneys congested.

The primary cancer here was of course in the breast and it is quite remarkable that no enlarged glands could be found in the axilla. The hepatic and pleural growths are secondary as also those of the glands around the liver. The pleural growths are the more interesting as being relatively rare.

Dr. Edward L. Munson, U. S. Army read the paper of the evening "Lay Suggestions on Medico-Military Affairs," published in the Military Surgeon a supplement of the National Medical Review March 1899.

DISCUSSION.

Dr. Kober said one thought suggested to his mind by the paper was, how much of the ill-will, and criticism heaped upon the surgeon-general and other officials of the government originated with such cranks as are referred to in Dr. Munson's paper. They write upon the slightest provocation, and, are usually very aggressive. The same statement applied to disappointed office-seekers. Thousands are perhaps today condemning the government officials upon the conduct of the war, whose real grievance lies in the fact that they were not appointed to some office.

Meeting of March 1, 1899.

Dr. G. N. Acker, Vice-President in the chair.

The board of censors having reported favorably upon Dr. L. A. La Garde, U. S. A. for membership by invitation, the Secretary was directed to cast the ballot for his election.

Upon the request of the treasurer, the society voted to appropriate $10.50 for expense incurred in printing the roster of the society.

Upon motion of Dr. Kober, the society voted to appropriate the sum of $32.00 for the reproduction of 400 copies of each of the four plates, used by the President in the presentation of his last annual address.

A YEAR'S WORK IN INTUBATION.

By C. W. Richardson, M. D.

Dr. Richardson said that it had not been his intention to read a paper at this time, but he had been requested to do so by the secretary to take the place of another paper which had been delayed. The time allowed him was so short that he had only been able to tabulate the results of his last year's work in intubation, and he would explain the cases and comment upon those that were especially interesting.

The work of 13 months is here included, the number of cases intubated during that time being 31 :

No.	Physician.	Age.	Site of Membrane.	Stenosis.	Bacilli.	Remarks.	Result.
1	Dr. J. F. Thompson	8 yrs.	Laryngeal & phar.	Intense	Klebs-Loeffler	Tube removed 4th day.	Recovery.
2	" D. H. Hazen	8 mos.	" "	"	" "	Tube removed 4th day; immediately reintroduced, coughed out, and reintroduced, finally coughed out on 7th day	Recovery.
3	" J. Chappell	3 yrs.	" "	"	" "	Tube removed on 4th day	Recovery.
4	" R. Stuart	2 yrs.	" "	"	" "	" "	Recovery.
5	" E. Sothoron	6 mos.	" "	"	" "	Died 8 hours after	Death.
6	" Tarkington	5 yrs.	Laryngeal	"	" "	Tube removed on 4th day	Recovery.
7	" Caldwell	7 yrs.	Laryngeal & phar.	"	" "	" "	Recovery.
8	" Swormstedt	3½ yrs.	" "	"	" "	Tube removed in 2 days, and reintroduced at end of one hour; removed on 5th day, and immediately reintroduced, removed 2 days later and immediately reintroduced.	Recovery.
9	" C. A. Stone	8 yrs.	Laryngeal	"	" "	Tube removed on 4th day	Recovery.
10	" Harding	1 yrs.	"	Moderate	" "	" 6th "	Recovery.
11	" Perkins	5 yrs. 1 mos.	Laryngeal & phar.	"	" "	" 4th "	Recovery.
12	" Slattery	1½ yrs.	" "	Intense	" "	Died in 32 hours	Death.
13	" W. L. Miller	"	Laryngeal	"	" "	Died on 4th day	Death.
14	" Manss	1 yrs. 1 mos.	"	"	" "	Tube removed on 4th day	Recovery.
15	" Parsons	2½ yrs.	Lar. & phar.	Alarming	" "	" "	Recovery.
16	" A. C. Adams	8 yrs.	" "	"	" "	" in 36 hours	Death.
17	" J. Chappell	8 yrs.	" "	Severe	" "	" on 4th day	Recovery.
18	" Sheckels	8 yrs	Laryngeal	Intense	" "	" in 3 days	Recovery.
19	" R. T. Holden	6 yrs.	"	Alarming	" "	" on 4th day	Recovery.
20	" R. T. Holden	1 yrs. 2 mos.	"	"	" "	" "	Recovery.
21	" E. Donoghue	5 yrs.	"	"	" "	"	Recovery.
22	" R. T. Holden	8 yrs.	"	Intense	" "	" in 36 hours	Death.
23	" Herron	8 yrs.	"	Alarming	" "	" in 3 days	Recovery.
24	" Caldwell	21 mos.	"	"	" "	" "	Recovery.
25	" Behrend	3 yrs	"	Intense	" "	" "	Recovery.
26	" R. T. Holden	2½ yrs.	"	Alarming	" "	" "	Death.
27	" Street	7 yrs.	"	Intense	" "	" "	Recovery.
28	" Keech	8 yrs.	"	Child in collapse	" "	" on 4th day	Recovery.
29	" R. T. Holden	3 yrs.	Lar. & phar	Severe	" "	" "	Recovery.
30	" Herron	3 yrs.	" "	Alarming	" "	" in 24 hours	Death.
31	" R. T. Holden	8 yrs.	Laryngeal	Severe	" "	" on 5th day	Recovery.
						" on 3d day	Recovery.

No. 1 was intubated at the Children's Hospital, when the child was apparently in a dying condition. The tube was secured to a string which hung from the child's mouth. The dyspnoea was intense and the child would undoubtedly have suffocated had he not removed the tube and string, and intubated immediately. As now performed the operation requires no string to hold the tube. Another point of importance is that tubes never fill up now as in the days before antitoxin was used. This child recovered.

No. 2 is an interesting case of retained tube. The tube was removed and reintroduced on the 4th day: coughed out, and reintroduced: and again coughed out on the 7th day, and was not again put in. The child recovered.

No. 3 was a child 3 years of age, seen with Dr. Chappell. It had laryngeal and pharyngeal diphtheria, and the stenosis was intense. The chances of recovery seemed very poor.

Intubation was performed and undoubtedly saved the child's life.

No. 5 was seen with Dr. E. Sothoron. The child was 6 months old, a miserable, scrofulous specimen, almost dead. The surroundings were squalid, there was no fire, and all the circumstances seemed adverse to the child's recovery. It died 8 hours after intubation.

No. 8 was turned over to him by Dr. Swormstedt. Its condition was very unpromising. Intubation was performed, and the tube was removed in two days, and reintroduced at the end of one hour; removed on the 5th day, and immediately reintroduced; removed two days later, and again reintroduced. Child recovered.

Case No. 9, seen with Dr. Stone, he was inclined to doubt the correctness of the diagnosis of diphtheria; but intubation being indicated by the symptoms present, the operation was performed, and the child made a good recovery.

No. 10, was interesting and unusual in that the same patient was intubated twice for diphtheria within eighteen months. The patient was a child 4 years of age, the stenosis was severe, and the Klebs-Loeffler bacillus present. The tube was removed on the 6th day. The child recovered, and was out for a month, when it was attacked by pneumonia and died.

No. 12 was a child of 18 months. Intubation was performed, but the patient died within 32 hours. Three children in this family had diphtheria, the infection being of the most severe type Dr. Richardson had ever seen. Two recovered and one died.

No. 15 was seen with Dr. Parsons. He went at once, and arrived just in time to save the child's life, the stenosis being so alarming as to threaten life by suffocation.

No. 16 was a child of eight years seen with Dr. Adams. The Klebs-Loeffler bacillus was present, and the stenosis alarming. After he intubated, the child seemed to be doing well, and he expected a happy result. Convulsions, however, set in and the child died in 36 hours.

No. 20 was a child 4 years and two months old, seen with Dr. R. T. Holden. The case was one of laryngeal diphtheria, the stenosis being alarming. The child was nearly dead when intubation was performed. The tube was removed on the 4th day and the patient recovered.

No. 26. This was a child 2 years and 3 months old, seen with Dr. Holden. The stenosis was alarming. Intubation

was performed, and the tube was removed on the third day at 2 p. m.

The breathing was satisfactory for a time after, but toward evening it became worse and the child died. I reached the child too late for reintubation.

No. 28 was a child of 8 years seen with Dr. Keech. Inspiration was most difficult, and the child was struggling for air. It was wrapped in a sheet and when put in the nurse's arms, it stopped breathing. The tube was quickly introduced and artificial respiration successfully resorted to. The tube was removed on the 4th day. The child recovered.

No. 30 was a child of 3 years, having laryngeal and pharyngeal diphtheria, a brother of case number 23. It was taken with diphtheria two months later than the first child. The same good results were obtained, although antitoxin had not been given, and intubation was not done until five days after the disease appeared. The tube was removed on the 5th day, and the child recovered.

Commenting further upon these cases, Dr. Richardson said that here were 31 cases of intubation with 7 deaths: a mortality of 22 per cent. He hardly believed that there could be any sceptics in the Society as to the efficacy of antitoxin when one could report a series of cases like this. The mortality from diphtheria had been so much reduced from that of pre-antitoxin days that one could not doubt that the good results were due to the antitoxin alone.

He had lately noticed in one of the medical periodicals a paper by a prominent New York physician, who wrote against the value of antitoxin. He had little patience with men of the standing of this gentleman, who wrote in that strain. He either was not versed in the medical literature and methods of to-day, or closed his eyes to the efficacy of antitoxin. We should remember that antitoxin is not a specific in diphtheria, but it is the best known remedy for the disease which we have. All other remedies, of acknowledged value in the cure of certain diseases are occasionally attended with unfavorable results: for instance, anaesthetics, opium, etc. He could not see why a man should persist in attacking antitoxin because the result was not what he wished in all of his cases.

The dose of antitoxin has been getting larger and larger. A few years ago, we were timid, and administered the remedy in small doses—and many cases were probably lost on this account. 500 units for a child 8 years old is not sufficient; in laryngeal diphtheria in patients over two years of age, 2500 to 3000 units is the proper dose and for those under that age, 1500 to 2500 units should be given.

He had been asked by some, why the number of his intubation cases had not decreased, if antitoxin is as efficacious a remedy as is claimed. These persons forget however that most of the cases requiring intubation are laryngeal diphtheria.

The parents think their child has "croup" and the physician is not summoned until the symptoms become alarming.

This is the reason why so many cases require intubation.

Some persons believe that some of these cases are membranous laryngitis and not true diphtheria. No doubt there is occasionally a laryngeal stenosis of this kind, but it is rare. In his 100 cases of laryngeal diphtheria, three only were reported where the Klebs-

Loeffler bacillus was not present and he was sceptical about these three.

The age at which intubation is attended with most difficulty and the most unsuccessful results, is from 18 to 36 months. In these cases he does not remove the tube before the 5th or 6th day. If removed earlier, recurrence of the stenosis from swelling over the cricoid cartilage is apt to occur.

He referred also to the value of antitoxin in rendering deglutition easy. After intubation, when the breathing became easy, it is a common thing for the child to demand solid food: whereas before the days of antitoxin, even liquid food had to be forced upon the child, and introduced through a tube.

In closing, he referred to the fact that the tube was also removed earlier than formerly. Then, it had to be removed by the fourth day. Now, there is no filling up of the tube with secretion, nor is it retained long enough to cause the formation of granulations above or below it.

DISCUSSION:

Dr. T. C. SMITH asked Dr. Richardson for information upon the following points:

1. What kind of cases should be intubated—define the symptoms in a given case which would indicate intubation?

2. In what cases is tracheotomy to be preferred?

3. Has Dr. Richardson seen any bad effects from the use of the intubation tube?

We all recognize the grave character of these cases. Most of those reported would undoubtedly have died, had they not been intubated. He was therefore proud of his associate when he considered the good results reported to-night. The reason for his third question was that he had seen in a recent number of the Journal and The American Med. Association an article in which the writer spoke disparagingly of intubation. This writer had intubated 5 cases, all of whom died. In the same number of the journal was an article by Maxham, in which he referred to 38 intubations with only two deaths. The day has gone by when a man can dispute the efficacy of antitoxin or intubation.

He himself had recently saved the lives of two children suffering from laryngeal diphtheria, by the use of antitoxin; and would resort to intubation in more of his cases if he were skilled in the operation. He suggested the question whether it would not be advisable to use the tube earlier in the cases than is usually done.

Dr. BEHREND said that he had noted in several cases after laryngeal diphtheria that the pulse was intermittent, and remained so for some time, sometimes as long as 3 weeks. He asked Dr. Richardson if he had noticed this.

He also observed that the Klebs-Loeffler bacillus remained in the throat much longer in laryngeal than in pharyngeal diphtheria. He thought the probable explanation of this was that the bacilli in the former got farther down and out of reach of the antiseptics employed to destroy them.

Dr. KEECH referred to his case which was intubated by Dr. Richardson. He first saw the child late on a Saturday night, and suspected diphtheria. On Sunday he sent a culture to the Health Department, and the report was returned that it was diphtheria. Monday morning he administered 1000 units of antitoxin, all that he could then obtain.

In the evening one could hear the child breathe across the street. He sent for Dr. Richardson and gave hypodermic injections of strychnine and nitroglycerin to keep the child alive until he arrived. While Dr. Richardson was introducing the tube the child stopped breathing, but he promptly inserted the tube and resuscitated the patient by artificial respiration, Dr. Keech meanwhile giving stimulants hypodermically. After intubation, the child breathed more easily, and he believed that Dr. Richardson saved the child's life.

The initial dose of antitoxin which he had administered, did little, if any good, as it was only one-third of the dose which should have been given. The next morning he gave 2000 units more. Up to this time there had been fever. After this dose the temperature became normal and remained so until Thursday, when it began to rise again. He then gave 1500 units more, and the fever and all symptoms subsided.

Dr. REYBURN said that he resorted to antitoxin and intubation whenever he believed them necessary.

He had not however seen in all cases the same good results from the use of antitoxin which had been reported. In fact it is not a panacea, and will not cure all cases.

One unfortunate result of the general use of antitoxin has been that it has led to the abandonment of local treatment. As a rule now, little is done locally, and physicians are prone to depend almost entirely upon the antitoxin.

He would urge however, the conjoint use of constitutional and local remedies.

In many cases we can get just as good results by local antiseptic treatment as could be desired :

1-1000 solution of corrosive sublimate is an admirable remedy of this kind, especially when sprayed into the throat. The antitoxin should also be given. It does not however kill the bacteria themselves, but neutralizes the toxic agent which they elaborate. Why should we not then destroy the bacteria themselves by antiseptic local treatment of the throat?

Statistics upon the subject under consideration may be misleading and even fallacious. Take for instance the "follicular tonsilitis" of 5 or 10 years ago, a sore throat and membrane on one tonsil only. Then, we treated it as tonsilitis ; now, the Health Office reports it as diphtheria. He had recently such a case, and put it on local treatment and it recovered. Three weeks after a culture was made, and the Health Department reported Klebs-Loeffler bacilli still present in the throat. Such cases, reported as diphtheria very much lessen the mortality rate from that disease and thus the reliability of statistic is diminished. He used antitoxin in almost all of his cases, but also believed in continuing local throat treatment. This can be done without difficulty by using the spray. If a child can take liquid food it can take a spray. He has used antiseptics in this way in large doses. In one case he used five grs. bichloride in solution in 5 days with no ontoward result.

In one case, in which he injected 2500 units of antitoxin in a child 6 years of age he noted the following peculiar effect. The child fell soon after and cut his knee ; warty vegetations developed around the cut and it was a long time before it healed up. Whether this was in any way connected with the previous dose of antitoxin, he did not know.

DR. CHAPPELL said that he was decidely in favor of intubation in his case reported this evening, as the child would have died in an hour if the operahad not been done.

His second case reported by Dr. Richardson illustrated the point that it is best not to wait in some cases until the dyspnoea is threatening to suffocate before introducing the tube. This case might have recovered anyway, but it was far in the country and he did not care to take the risk and therefore had the child intubated when Dr. Richardson was on hand. He congratulated Dr. Richardson upon his good results in general but he did not believe, as Dr. Smith does, that all his laryngeal cases were snatched from the grave. In several of his own cases he believed from the symptoms intubation would be necessary later on, but he had waited on account of the difficulty of getting Dr. Richardson in the country, and the children recovered without intubation.

He was sorry he could not agree with Dr. Reyburn in regard to local application to the throat ; in his opinion in very young children the crying, struggling etc., did more harm than the remedy could possibly do good. He had seen good results without local treatment and had abandoned it in the

very young altogether. He had not lost a case since the introduction of antitoxin, and he had had quite a number of cases for one in private practice. He had lost his former confidence in the culture tube for diagnostic purposes. They were not to be depended upon implicitly. He believed that he could with more certainty depend upon his own judgment. In the case of his own child, he sent three cultures to the Health Department, and only in the third was the Klebs-Loeffler bacillus found.

He was treating a case now of what he regarded as a well marked case of diphtheria, and in the two cultures taken from the child's throat no Klebs-Loeffler bacillus were found. In the other cases, with scarcely no clinical evidence of the disease, the bacilli were found for weeks. He asked Dr. Richardson if he knew of any recent case of sudden death attributable to the use of antitoxin. He himself had heard of none, and thought that probably since the improved methods of producing and administering antitoxin, fatal results had been avoided.

Dr. Adams said that the strongest argument for intubation presented by Dr. Richardson's paper was unquestionably the unfavorable condition of the patients when Dr. Richardson was called, and the large percentage of good results obtained. All the children were cynotic, and threatened with suffocation. The general practitioner usually delays sending for the laryngologist in these cases until he can see no chance for life. He doubted if Dr. Richardson saw any of these cases a day before he had to intubate.

The efficacy of antitoxin depends very largely upon the time it is administered, the earlier the better. Dillon Brown who has done more intubation than any other in the world, not excepting O'Dwyer, said that since antitoxin had been generally used, his business had nearly left him.

He was surprised that Dr. Reyburn laid stress on the fact that antitoxin does not kill the bacteria. He supposed that it was generally understood that it was used to neutralize the ptomaines which the bacteria produce, not to destroy the bacteria themselves—otherwise we should apply the antitoxin locally to the throat.

As to local treatment, what treatment shall we give? We can use Benzoin and other sprays, but what advantage is gained by doing this for a comfortable child, who is eating and breathing well? In tonsillar diphtheria local treatment was always advisable, but in laryngeal, it was not.

Almost all physicians use local treatment in nasal and tonsillar diphtheria, but he had yet to meet the physician who would employ local treatment in laryngeal diphtheria, with the tube in.

All intelligent physicians of course combine constitutional treatment—alcohol, etc., with the use of antitoxin.

Dr. Kober said that there was evidently a misapprehension as to the exact way that diphtheria antitoxin produces its beneficent effects.

Dr. Adams spoke of its neutralizing the ptomaines produced by the bacteria. He did not understand it so. He had thought it acted by immunizing the tissues, anticipating the formation of the toxin, and establishing a tolerance in the cells to the poison, so that they would not be overcome by it, when it was evolved by the bacilli of the disease. But as he was not certain that this was the correct theory, he asked Dr. De Schweinitz for information upon this point.

Dr. De Schweinitz, in answer to Dr. Kober's question, said that he would only be too glad to enlighten him as to the exact method in which antitoxin produces its benificent effects in diphtheria, but unfortunately, at the present time no one could do so, as the subject was still under discussion.

There are two theories as to its action: 1. That it acts chemically to neutralize the toxin produced by the diphtheria bacilli, and 2., that the process is one of indirect neutralization through the leucocytes, the action being both vital and chemical.

Much experimental evidence has been brought forward to support each of these theories, but neither of them can now be regarded as proven.

Dr. Richardson in closing the discussion said in answer to Dr. Smith's first question as to the kind of cases in which intubation should be performed that any case of laryngeal diphtheria in which there was sinking in the supra-sternal notch, retraction of the abdomen and spasmodic attempts to obtain air, was a proper case for intubation, especially if antitoxin had not already been used.

Even if antitoxin had been administered, 24 hours or more were, as a rule, required for the separation of the membrane, and in this time the child might die from suffocation. In some cases the membrane separated in less than 24 hours after the administration of antitoxin, but not in all—and in a great many such cases intubation saved the child's life. He could not see why so many patients were allowed to go on and suffer, and in many cases to die, when they could be relieved so quickly and safely by intubation.

As to Dr. Smith's second question regarding the kind of cases which require tracheotomy—he knew of none. He had never seen a case since the advent of antitoxin in which antitoxin and intubation did not give complete relief. He answered Dr. Smith's third question by saying that he knew of no bad effects from intubation, unless of course it was done by an unskilled or bungling operator.

In answer to Dr. King's question as to why the operation is most difficult and the results least favorable in cases between the ages of 18 and 36 months he said he knew of no reason. It had only been a matter of observation in his own personal experience.

He called Dr. Ward's attention to the fact that he did not claim that antitoxin was the only treatment for diphtheria: but he did say, that it is the best which we now know.

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Therapeutic Notes.

What Shall the Standard Be?

There are two things which go to make the practice of medicine an uncertain art: the personal equation of the patient, and the unreliability of the remedies administered to him. The organic differences of individual constitution which go to form personal idiosyncrasy are largely outside the control of human agencies. There would, however, seem no good reason why some method of acquiring exactness and uniformity in pharmaceutical preparations cannot be achieved. The uniformity of standard which prevails in other branches of science is largely absent in the science of Materia Medica. The practitioner who writes a prescription for digitalis in a dozen different parts of the city will find in some instances that he obtains a drug which exhibits a satisfactory physiological action, and in others that no satisfaction is given. The use of a good many remedies has been practically discontinued on account of this unreliability.

The forthcoming revision of the Pharmacopœia would seem an opportune moment for insisting upon some difinite standard being required. The ideal standard would probably be the chemical one, and those drugs capable of chemical assay should be required to exhibit their component substances in proportions of definite quantity and strength. There are, however, a large number of galenical preparations which are not as yet, and probably never will be, amenable to chemical assay. They may contain chemical compounds which are not susceptible of isolation. For these it might reasonably be thought some simple method might be inaugurated whereby it could be determined whether the drugs were capable of doing what was expected of them. Where drugs could not be standardized chemically they might be standardized physiologically. By complying with a few simple rules it might easily be ascertained whether the physiological principles of the drug were vitally active. It matters little how much crude ergot goes to the fluid pound of the extract if the product fails to produce a characteristic physiological action. The effect of the drug can easily be tested upon the lower animals. The physiological laboratory is nowadays furnished with instruments which facilitate all methods of precise observation.

While the adoption of the principle of universal standardization of the Pharmacopœia is unquestionably a measure the consummation of which is much to be desired, there is a strong probability that, for obvious reasons, the Revision Committee may not see fit to recognize the principle in the next edition.

Is there no help for those of us who must live and practice our art in the present day? Why should we be fettered by the traditional conservatism of the Pharmacopœia, rational though it may seem? The remedy is near at hand. We do not think that in this age of invention and progress it would be asking too much, or going one step too far, if the medical profession should insist that the pharmaceutical manufacturer assay, or better, perhaps, "standardize," every powerful preparation which passes from his hands.—*Medical Age, June 10, 1899.*

Maltine With Creosote.

Among the more recent remedies creosote has proven of the utmost value in the treatment of tuberculosis in its various forms, especially pulmonary, and in septic conditions of the alimentary canal as exhibited in different forms of diarrhoea. By its antiseptic properties it counteracts the toxic influence of tubercle bacilli, destroys bacilli of a less virulent type, and increases nutrition by stimulating metabolic activity. Its combination with Maltine has proved exceptionally serviceable in supplying a highly nutritious element, disguising the disagreeable taste, and completely removing the tendency of creosote to produce gastric irritation; in fact, pure creosote, such as is used in this combination, causes little or no irritation in the alimentary canal even when taken alone.

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Doctor :

You find the hot weather very exhaustive to your consumptive patients, don't you?

Have you ever thought of the reason why?

It is simply because the salts of the tissues are wasted in excessive perspiration.

How can you restore this waste? By administering quinine, iron, strychnine, manganese and all the range of exciting tonics? Not at all.

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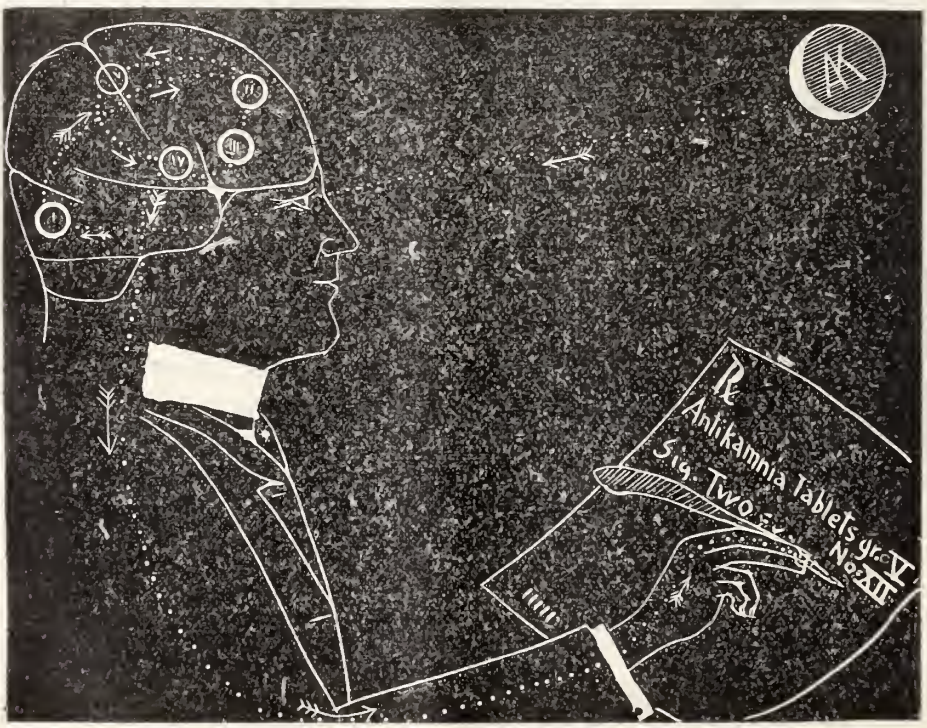

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The Universal Auxiliary of Modern Medicine and Surgery,
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Aye! Get Good Blood—but How? Not by the Alimentary Process. It has already failed to do its work (else the patient would not be sick); and in acute disease must not even be allowed to do the work it can. Stimulate as you will, the whole sum of the patient's alimentary power when fully forced into play, is unable to keep up the nourishing and supporting contents of the blood. There is absolutely but one thing to do; and, thank God, that can be done, usually with success, as ten-thousand-fold experience has proved. That one thing is this: where Nature fails to PRODUCE good and sufficient Blood, WE CAN INTRODUCE IT from the arteries of the sturdy bullock, by the medium of BOVININE.

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TRY it in ***Anæmia***, measuring the increase of red cells and hæmaglobin in the blood as you proceed, together with the improving strength and functions of your patient.

Try it in ***Consumption***, with the same tests from week to week.

Try it in ***Dyspepsia*** or Malnutrition of young or old, and watch the recuperation of the paralysed alimentary powers.

Try it in ***Intestinal*** or gastric irritation, inflammation, or ulceration, that inhibits food itself, and witness the nourishing, supporting and healing work done entirely by absorption, without the slightest functional labor or irritation; even in the most delicate and critical conditions, such as Typhoid Fever and other dangerous gastro-intestinal diseases, Cholera Infantum, Marasmus, Diarrhœa, Dysentery, etc.

Try it per rectum, when the stomach is entirely unavailable or inadequate.

Try it by ***subcutaneous*** injection, when collapse calls for instantaneous blood supply—so much better than blood-*dilution!*

Try it on ***Chronic Ulceration***, in connection with your antiseptic and stimulating treatment (which affords no nourishment) and prove the certainty and power of topical blood nutrition, abolishing pus, stench, and PAIN, and healing with magical rapidity and *finality*.

Try it in ***Chronic Catarrhal*** Diseases; spraying it on the diseased surfaces, with immediate addition of peroxide of hydrogen; wash off instantly the decomposed exudation, scabs and dead tissue with antiseptic solution (Thiersch's); and then see how the mucous membrane stripped open and clean, will absorb nutrition, vitality and health from intermediate applications of pure bovinine.

Try it on the ***Diphtheritic Membrane*** itself, by the same process; so keeping the parts clean and unobstructed, washing away the poison, and meanwhile sustaining the strength independently of the impaired alimentary process and of exhaustive stimulants.

Try it on ***anything***, except plethora or unreduced inflammation; but first take time to regulate the secretions and functions.

Try it on the ***patient*** tentatively at first, to see how much and how often, and in what medium, it will prove most acceptable—in water, milk, coffee, wine, grape, lemon or lime juice, broth, etc. A few cases may even have to begin by drops in crushed ice.

A New Hand-book of Hæmatherapy for 1898, epitomizing the clinical experience of the previous three or four years, from the extensive reports of Hospital and private practice. To be obtained of

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The Utility of Gargling.

The utility of gargling in diseases of the throat has been denied by several observers (*Lancet*, March 25, 1899), as, for instance, Dr. Kantorowicz. Gargles nevertheless continue to be prescribed by the majority of medical men and constitute one of the principal methods of treatment in those cases. In order to ascertain whether there are varied reasons for maintaining this practice Dr. Sanger has made some experiments, the results of which he published in the *Munchener Medicinische Wochenschrift*. He points out that the therapeutic utility of gargling depends on whether the fluid employed reaches the pharyngeal mucous membrane and the tonsils or not, and for the purpose of arriving at a definite conclusion he brushed the tonsils of a patient with methylene blue and made him afterwards gargle with water. In the result the water when ejected from the mouth was colorless, neither was there any blue tint visible in the interior of the mouth, although the tonsils continued to be intensely blue. Obviously, therefore, the fluid had not reached the tonsils. The same result was obtained in every instance. In another series of experiments the velum, a portion of the tongue, and the tonsils were dusted with wheat flour, after which the person made use of a gargle consisting of a solution of iodine in glycerin, the consequence being that the velum and the tongue showed the blue color of starch acted on by iodine, whilst the flour on the tonsils was neither colored nor washed away. Dr. Sanger, therefore, concludes that gargling is useless, and that where this kind of local treatment is indicated it would be better to swab the pharyngeal mucous membrane with pieces of cotton-wool, avoiding brushes, which are liable to injure the mucous membrane. *Medical Age.*

A Permanent Injunction.

The California Fig Syrup Co. has just obtained a permanent decision in the United States Circuit Court, against Clinton E. Worden & Co. of San Francisco a large non-secret manufacturing concern. They are permanently enjoined from using the name Syrup of Figs or Fig Syrup, as the name of a laxative medicine which they manufacture, and required to pay costs and account for sales of the imitation.

The evidence fully established the facts; that the California Fig Syrup Co. manufacture an excellent laxative; that it has been extensively advertised; that it has acquired a valuable reputation under the name—Syrup of Figs, or Fig Syrup—and that they are justly entitled to protection against manufacturers who wish to trade on the reputation of their remedy, by applying the same name to the laxative medicines which they manufacture.

An Important Observation.

Prof. Burney Yeo of London states in his latest work on Clinical Therapeutics that many of the common forms of diarrhœa are accompanied by excessive acidity of the intestinal contents, and that they may be promptly cured by antacid remedies without the use of astringents.

These forms of diarrhœa are associated with the growth and multiplication of micro-organisms which induce intestinal fermentation and consequent local irritation from decomposing food products.

The therapeutic indications in these cases are clear, viz; check intestinal fermentation, neutralize acidity, and overcome the existing atonicity and catarrhal inflammation of the intestinal mucous membrane. Lauder Brunton speaks highly of the value of glycerine as an intestinal antiseptic. In combination with digestive tonic alteratives and antacids, as it is in Gray's Glycerine Tonic Comp. it fulfills all the existing indications and moreover promotes the digestion and assimilation of food so that the normal nutritive processes are speedily re-established. It is of particular value in diarrhœa occurring in people of impaired vitality as it not only cures the intestinal disturbances but it also restores tone to the enfeebled system.

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Dr. George Joachim (*Deutsche Medicinische Wochenschift*) states that, while we have in calomel an excellent remedy for cholera infantum, it sometimes proves objectionable by increasing the drain of fluids from the system. This is especially true in cases in which the diarrhea has persisted for a number of days. Under these circumstances the author advises the use of calomel in minute doses (1-12 gr.) which does not increase the purgation, but exerts a disinfectant action upon the bowels. In combination with this drug he employs Tannopine in 5 to 7 gr. doses, three to four times daily. This formula proved of great value in fifty-one cases of acute intestinal or gastro-intestinal catarrh in connection with the customary dietetic regulations. Owing to the fact that it is completely innocuous, Tannopine may be administered without the slightest risk to the smallest infants. Joachim recommends that the administration of Tannopine be continued in small doses for a few days after the diarrhea has completely subsided, in order to avoid the possibility of recurrences.

To Remove Blood

from the hands, sponges, etc., wash them in a basin full of lukewarm water to which a teaspoonful of tartaric acid has been added. Do not employ soap. Instruments, bandages, gauze, etc., may be cleansed in the same way and afterwards rinsed in fresh water.—*Zeitschrift fur Krankenpflege.* (*Med. Rec., N. Y.*)

Pharyngitis.

Carbolic acid, 1 dr.
Tinct. Iodine, 5 min.
Tinct. Opium, 8 min.
Listerine, 2 fl. dr.
Glycerin, 6 fl. dr.
Spray the pharynx three times a day.
—*N. C. Med. Jour.* (*Merck's Archives.*)

Eczema of the Palms and Soles.

Unna's plan for the treatment of eczema of the palms and soles consists in the application every four to six hours of starch poultices to which a little boric acid has been added. A good deal of the sodden epidermis is removed by rubbing with a rough, soft, dry cloth between the changes of poultices. In about four or five days the palms become soft, smooth, and pliable. The following ointment is then applied :

R Acidi pyrogallici oxidati, 5-30 grains.
Lanolin, ½ ounce.
Ol. amygdal.
Aq. dest., aa, 2 drachms.
—*Med. News.*

A Paste for Trichophytosis Barbae.

Dr. Menahem Hodara, of Constantinople (*Monatshefte fur praktische Dermatologie*, May 1st), has made considerable use of the following formula :

R Lanolin, 20 parts.
Vaseline, 20 parts.
Glycerin, 10 parts.
Sugar, 20 parts.
Sulphur, 10 parts.
Zinc. oxide, 20 parts.
M.

He has employed the paste satisfactorily in various skin diseases, but finds it particularly effective in the treatment of sycosis. It is applied in a thick layer night and morning. When the pustules have fully dried up and the crusts have all been removed, it is sufficient to apply it at night only.—*N. Y. Med. J.*

Laryngo-Bronchial Irritation of Influenza.

R Codeinæ sulph. 4 grains.
Ammonii chloridi, 5 drachms.
Syr. pruni-virg. 2 ounces.
Spir. junip. comp. q. s. ad. 4 ounces.
M. Sig.—A teaspoonful every two or three hours. *Medical Fortnightly.*

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R Lambert's Listerine.
Glycerine (c. p.)
Syr. Simpl.
Aquæ cinnamon, aa 1 oz. M.

Sig. Teaspoonful every one, two or three hours, as may be indicated.

Taking into consideration the component parts of Listerine, it impresses me favorably as a prophylactic and remedial agent for cholera, along with other intestinal disturbances. The eucalyptus, thyme, gaultheria and boracic acid which it contains are all antagonistic to germ life and oppose fermentation. The preliminary diarrhœa, (cholerine, as it is called) may well receive teaspoonful doses of Listerine combined with the same amount of glycerine; in fact, I should be inclined to recommend to the laity this combination as a prophylactic measure."

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Aseptic Catheterism.

Wolff (*Deutsch med. Wochenschrift*, 1899, No. 9) divides this subject into disinfection of catheter, maintaining it in a sterile condition when not in use and aseptic introduction. There have been many difficulties in disinfecting non-metallic catheters without injury to the fabric. Formalin, while harmless to the catheter, causes burning to the patient and cannot be employed. Neither is aseptic introduction altogether practicable, because of the bacteria habitually present in the anterior urethra, which cannot be flushed out. Wolff thinks that in glycerine we have an ideal substance to fill all three of the above-named indications, when combined with an equal proportion with one per cent aqueous solution of sublimate. This preparation is able to disinfect a catheter, if the latter be immersed therein for 24 hours. After introduction the catheter may be readily rinsed off with running water (not possible, if oil has been used as a lubricant.)

For rapid sterilization, the instrument may be placed in a glass tube containing the glycerine mixture, and the latter may be boiled for two minutes. Boiling is necessary as a routine procedure in very fine catheters.—*Med. Rev. of Rev.*

To Remove Nitrate of Silver Stains From Clothing.

A solution of iodine in ammonia water, the so-called colorless tincture, will remove nitrate of silver stains from the hands, clothing, etc., but owing to the danger of the formation of nitrogen iodide, which is a powerful explosive, it is not recommended. A solution of iodine in iodide of potassium dissolved in water is nearly as quick and quite as effective. Dissolve 15 parts of iodide of potassium in 50 parts of water, and to the solution add 10 parts of iodine. When the latter is dissolved add sufficient water to make 500 parts. Keep in a well-stopped bottle. Treat the spots with this, and after a few minutes with a 10 per cent solution of caustic soda, which will remove the silver iodine formed by the first treatment.—*The National Druggist.*

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On the Treatment of Tapeworm.

Dr. J. Sasse described (*Medisch. Weekblad voor Noord-en Zuid-Nederland*) the methods employed by Man and Quanjer of Holland. These two men are both of the opinion that oleum ricini should not be used in association with male fern as a laxative in the treatment of tape-worm, since filicic acid forms a readily absorbable compound with the oil, capable of producing symptoms of poisoning.

Quanjer's method is as follows: A preparatory course is not necessary, but the patient is kept in bed until the worm is driven off. At seven o'clock in the morning he receives thirty-five to forty grains of aq. laxat. Viennensis. Quanjer employs five grams of filicin, divided into eight or ten parts and administered in soft gelatin capsules (hard capsules are to be avoided). At eight o'clock the patient takes the first two capsules, and then every ten minutes two more, until all are taken, each time with a sip of port wine or madeira to prevent nausea. The bowels usually move about ten or eleven o'clock; if not, then another dose of laxative is administered. This method never fails in expelling the entire worm.

Man's method is to administer a laxative on the day previous, so as to soften the scybala and permit access to the parasite. On the evening before he orders wine and water to be drunk, but allows no milk. The next morning at eight o'clock the patient receives in repeated doses the ethereal extract of filix mas in capsule or pill form up to twenty or twenty-five grams, and as much wine and water as he cares to drink. Usually a laxative is not necessary. By eleven o'clock, as a rule, the worm is discharged, and the patient is allowed to get up. Sasse reports twenty-seven cases and as many cures; the absence of poisonous symptoms he believes is referable to the non-employment of castor oil. In those cases in which filicin is contra-indicated on account of marked nausea or vomiting, he resorts to the copper treatment of Hager-Schmidt:

R Oxyd. nigr. cupri, 6
Cretæ præp., 2
Argillæ alb, 12
Glycerini, 10
M. ft. pil. No. cxx.

For the first week two pills four times daily, and during the second week three pills four times a day; finally a dose of oleum ricini. No preparatory treatment is necessary; all sour substances are to be avoided. *Med. Rec.*

Dionin in Chronic Morphinism.

This is recommended by Fromme (*Berliner Klin. Woch.*, April 3, p. 302), to neutralize the unpleasant symptoms that result from withdrawal of the opiate. Dionin is a hydrochlorate of morphin-ethyl-ether, readily soluble in water and therefore available for hypodermic injection. The ordinary dose by the mouth is from .5 to 1 grain, beneath the skin from .25 to .5 grain; in cases of chronic morphinism larger doses will be required; 3 per cent solutions have proved most serviceable. Injections are followed by transitory itching of the skin; when large, by a sense of fatigue—feelings of fear, when present, are removed and sleep promoted. *J. Am. Med. Ass.*

The Treatment of Sea-Sickness.

This should be begun, according to Losee (*Med. Record*, May 13,) before the patient goes to sea. If possible, he should be perfectly rested and free from worry. Then, if bromides are relied on, they should be given in doses of 20 or 30 grains three times a day for from one to three days before sailing, until mild bromization is effected; on the day of sailing larger doses should be employed. A few drops of chloroform on sugar will sometimes relieve vomiting. Tincture of capsicum well diluted is also useful. Alcohol should be avoided except in the stage of exhaustion. Compound licorice in full doses is the best laxative. Opium with some mild astringent may be used for diarrhea. *J. Am. Med. Ass.*

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SUCH AS PROF. WILLIS G. TUCKER, OF THE ALBANY MEDICAL COLLEGE; PROF. WALTER S. HAINES, OF THE RUSH MEDICAL COLLEGE; PROF. JEROME H. SALISBURY, OF THE RUSH MEDICAL COLLEGE; PROF. JOHN G. SPENZER, OF THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS; PROF. J. W. BAIRD, OF THE MASSACHUSETTS COLLEGE OF PHARMACY; PROF. W. C. BENNETT, OF THE WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS; AND DR. WILLIAM D. HORNE, OF YONKERS, CERTIFY THAT MALTZYME IS SUPERIOR IN DIASTASIC POWER TO ANY MALT PREPARATIONS HERETOFORE PRESENTED TO THE MEDICAL PROFESSION, AND WHAT THEY SAY IS BASED ON ANALYSES. WE WILL BE PLEASED TO SEND YOU THEIR REPORTS.

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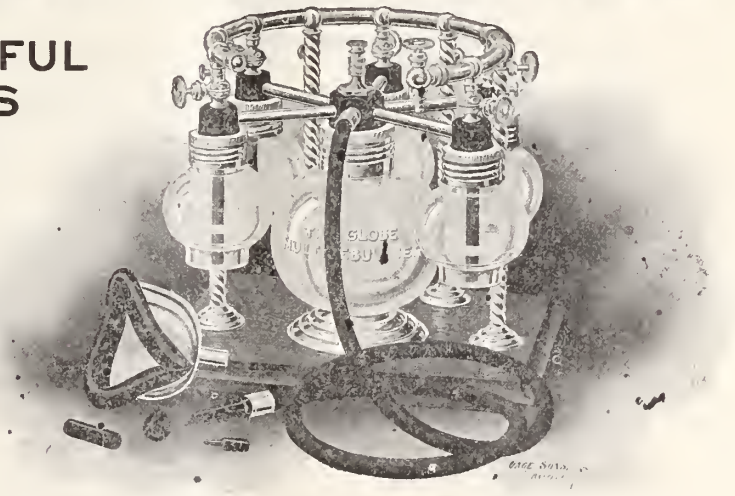

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THE

NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., JULY, 1899. No. 2.

Original Articles.

1. TWO CASES ILLUSTRATING THE UNRELIABILITY AND DANGERS OF THE VAGINAL ROUTE FOR DEALING WITH PELVIC PUS COLLECTIONS.

2. A CASE OF SUPERNUMERARY FALLOPIAN TUBE.

BY J. WESLEY BOVÉE, M. D.,
Gynecological Surgeon to Columbia and Providence Hospitals, etc.,
Washington, D. C.

1. So much has been said and written for and against the use of the vaginal route for treatment of pelvic collections of pus that practical experience with this and the abdominal route, followed without prejudice, must determine the relative value of each, together with the proper classification of conditions that furnish correct indications for each operation. Already a number of surgeons in this country have attempted to do this but their views are still *sub judice*.

When two such remarkable papers, offering diametrically opposite opinions, as those of Baldy and Pryor, are read in one evening, at the Philadelphia Obstetric Society, it must be that both methods have the strongest kind of adherents and that the time of their effecting a compromise has not yet come. The choice of the abdominal route would seem to be based upon the better surgical principles, as it affords a better opportunity of inspecting the abdominal viscera, so often complicated in the inflammatory mischief calling for surgical intervention. The practical experience of all abdominal surgeons demonstrates the frequency of vermiform appendix disease complicating the different forms of inflammation of the uterine appendages and to the extent of demanding appendectomy. I have done a considerable number of vaginal incisions and enucleations, but in so doing have never noticed the appendix involved. I am not saying it was not involved, for I have so found it later when completing the case at a future time by abdominal section. Pryor and others state their ability to inspect and treat it by the vaginal route, and I merely mention it to demonstrate that I can more readily discover and treat lesions of this organ by the abdominal route. At the same time I must express my belief in the hazardous and difficult nature of vaginal appendectomy. It has usually happened to me that the pathological conditions found by abdominal section were usually worse than were anticipated. Often have

I found some distance from the pevic organs, bowel adhesions that would undoubtedly have caused mischief had they been left unmolested. Collections of pus walled in by coils of intestine have often been noticed at points above the brim of the pelvis and would have, I believe, escaped the notice of the most expert vaginal surgeon. Two cases of this character I shall relate below.

The fact is, too much has been claimed for the vaginal route; its breadth of usefulness has been exaggerated, while, on the contrary many abdominal surgeons have been inclined to offer it absolutely no position, whatever, as a surgical procedure. It is dangerous teaching to advocate the vaginal route for hysterectomy for fibroids of the uterus that nearly reach the umbilicus, for we know this condition may be very simple and again it may require the most difficult of abdominal surgical operations. Yet we know such has been the practice and teaching of some. This route must be rid of its absurdities; its limitations must be realized by all as well as by Henrotin and a few others doing this work. Certainly, no operation, on the other hand, that is based on sound surgical principles, should be so readily and loudly decried without thorough trial.

One of the following cases well demonstrates the liability of leaving unrecognized, dangerous conditions in operating by the vaginal route and the other the danger of being signally misled in employing the vaginal incision for the treatment of pelvic pus accumulations. Perhaps an expert would not have been at all deceived by the condition found in the second case; but I venture to state my belief that such ability will be acquired only after doing a number of scores of such cases.

Case 1. A. W., 23 years of age, was admitted to Columbia Hospital, April 24, 1899, in a very bad condition from an accumulation of pus filling almost completely the pelvic excavation and presenting its most prominent point between the bladder and the cervix. Pulse 150, temperature 103°. She was stimulated and on the 27th, I operated. The vaginal route was selected, but as I did not like to drain the sac anterior to the uterus, it was decided to open the abdomen instead, although at this time her pulse was 160. However the abdominal incision brought me to a large pus sac extending into the pelvis and having its most dependent point as above mentioned. I emptied the sac through the protected abdominal opening and then pushed a rubber drainage tube through into the vagina. Higher in the abdominal cavity and completely separated from the one evacuated and not palpable through the thick abdominal wall, were three other collections of pus walled in by intestinal loops. These were opened and drained through the abdominal opening with gauze. No attempt was made to remove any diseased structures as the dangerous condition of the patient clearly interdicted it. She, however, made a good recovery and went home four weeks later, though there remained a considerable mass in the pelvis that may later require a radical operation.

Case 2. S. L., 22 years of age, was admitted to Columbia Hospital July 1, 1898. Her last child was born two years before and she had had four abortions, the last one a week before from a fall; her last menses had been in the previous February. At the time of admission she had severe pain in the hypogastrium and considerable uterine hemorrhage. A mass was found filling the pelvis, being prominent in Douglas' pouch and

slightly above the pelvic brim on the left side. It was very sensitive to the touch. Operation, July 7, 1898, by the abdomen, preceded by curettage. An intraperitoneal abscess was found, the wall of which was formed on the outer side by the left tube and ovary, in front by the uterus and bladder and behind and below by coils of intestine, a portion of the roof being formed by the omentum. It was evacuated and vaginal drainage established. As the appendage was enormously swollen, œdematous and dark red it was removed. The uterine canal measured five inches in length. Cultures from the tube and ovary removed showed pure cultures of non-chromagenic staphylococci—12 colonies in one tube. She made a perfect recovery.

In this last case I carefully examined with the intention of opening the mass by vaginal incision. I failed to discover the intestinal loops below the mass and no doubt great danger of puncturing these loops of intestine would have existed had the original plan been followed.

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2. The study of ectopic pregnancy has prompted investigation into abnormalites of the uterus and appendages. Malpositions of these organs, adhesions between Fallopian tube and vermiform appendix and other structures as well as inflammatory lesions and many other faulty conditions of the appendages have been placed in the ætiology column. The anatomical defects or aberrations in them, no doubt have an important relation to tubal pregnancy and, as well, to other mysterious processes, such as conception during double pyosalpinx or after double salpingectomy. I might go further and mention the cases of Sutton, Gordon, Ill and Virginius Harrison, in which the tubes and ovaries were removed some months before conception, and that of Fritsch, in which pregnancy followed three years after ligation of both Fallopian tubes in their middle with silk.

As the abdomens of these women have not been opened since, thus giving no opportunity for inspection, the exact conditions are not known. It is known that all the ovarian structure could not have been removed from these four women. As having a direct bearing on the subject, however, is the fact that communication between the ovarian structure and the cavity of the uterus, or the vagina, existed. Gærtner's ducts, opening into the vagina near the meatus urinarius externus, have occasionally been found in women. Their inner or upper extremities are well known to be the parovaria.

Another abnormality, and the one I especially wish to mention, is the occasional occurrence of more than one Fallopian tube on either side. They may be double on one side as reported by Pean, on both sides like Wetherell's case or they may be only partial on one or both sides. Glasgow found the left Fallopian tube double in its proximal two-thirds as demonstrated by the microscope but he could not make out the outer third of the extra tube. Richard found in the bodies of 20 women, selected at random, supernumerary pavilions and canals joining the canal of the Fallopian tube at various distances from the fimbriated end. Johnstone, Rokitansky, Hennig and others have met with them. To these I add a case met with in my practice.

Annie Z., white, 23 years of age, single, was operated at Providence Hospital, April 25, 1899, for endometritis and retroversion of the uterus with adhesions of the appendages. Curettage

was first done and then as the uterus seemed unusually low and forward, an antero-posterior incision was made through the vaginal roof just behind the cervix and by properly placed sutures the opening was closed in a transverse line. Then by opening the abdomen in front adhesions of both appendages were separated and ventrosuspension of the uterus done. In examining the right appendage I happened to notice two fimbriated tube ends, very similar in appearance. A careful investigation revealed in the upper one of them, a canal through which a probe could be passed almost to the uterine cornu. The portion of this tube through which I failed to pass the probe was of about normal size and consistency. Inasmuch as the passage of a probe through a tube all the way to the uterine from the ampullar end is rarely possible, I was still inclined to consider this a normal Fallopian tube. The other one of the same size was permeable to the probe but two inches and was lost beyond that to touch, to transmitted light and to the probe. The two inches of it noted was of the same size and appearance as the complete one. It was slightly posterior and below the principal tube and its fimbriæ were along the infundibulo-pelvic ligament. As the appendage was not removed and the patient recovered no opportunity for microscopical examination of the broad ligament and contents was afforded.

The formation of these extra tubes is very interesting. It is still unsettled though the best theory regarding the formation of the rudimentary or supernumerary abdominal ostia is that at the these points Müllerian grooves fail to completely infold.

This theory can not be made to apply to the complete supernumerary tube which is probably due to too much infolding causing a second tube that later becomes separated by the process of differentiation. The principal interest attached to this subject is the possibility of maintaining communication between the ovary and the uterine cavity when the normally placed tube, in part or in whole, is removed. It is quite the practice of pelvic surgeons to remove the outer portion of a Fallopian tube leaving the inner portion to perform the function, if possible, of the normal tube. And again, some perform salpingectomy so unskilfully and incorrectly that they leave unintentionally a considerable portion of the uterine end of the tube in the stump. It may be that the supernumerary ampullae join these tube stumps thus acting as adjuvants in the first condition and in the second, where all communication was thought to be permanently interrupted, to prevent the complete closure. I have no criticism to offer concerning the surgical skill and technique of Hunter McGuire, Gordon and the others who have been surprised by their patients giving birth to children years after their tubes and ovaries were supposed to have been entirely removed. But these patients must have retained ovarian structure and it must have been within reach of the spermatozoa. In fact some of these women had been married some years before the operation, without conceiving, and for the relief of the sterility, seemed to need the operation. In these operations no doubt the ovaries were resected and not exsected, a difference not always noticeable at the time. Then either the lumen of the tube stump was restored or unnoticed supernmerary tubes, or both, must account for the possibility of the subsequent pregnancies. In removing tubes for disease it is now customary, and rightly so, to leave as much ovarian tissue as possible. It is generally understood that women thus treated retain all their womanly attributes except child bearing. It may be possible that medical literature will soon contain records of cases of conception occurring sufficiently long after operation to demonstrate the communication between the ovary and the uterus or vagina. Especially may this be true if the plan of trimming the tube from the top of the broad ligament in salpingectomy is followed. And we may look in a number of them, I am confident, to the supernumerary Fallopian tube as being an essential factor in bringing it about.

THE NATIONAL MEDICAL REVIEW,

EDITED BY

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AND

THE MILITARY SURGEON,

A SUPPLEMENT.

OFFICE: 1408 Twenty-first Street, N. W.

WASHINGTON, D. C., JULY, 1899.

Editorial.

THE MEDICAL SOCIETIES OF THE DISTRICT OF COLUMBIA.

Through many years the weekly meetings of the Medical Society of the District of Columbia have been a source of pleasure and profit to its members, and its officers and committees have labored industriously for its advantage and for the public good. Much has been accomplished. The two volumes of Transactions that have been published and the improvements in city sanitation that have already been affected or are under way, alone bear witness to the professional attainments and diligence of its members, and show clearly how great a force the society has become in the community at large. And yet, it may be of interest to us, who are now its active members, to consider whether this body has reached the full measure of its usefulness, and to deliberate if it is not possible to do more perfectly the work we are doing and if there are not new channels into which our energies may be directed.

The Medical Society of the District has now more than 300 active members. The average attendance at its weekly meetings for the past few years has been stated by the secretary to be 75, or 25 per cent, though it is possible that to many this percentage may appear too high.

It is difficult to determine how many of those present at the meetings of a given year actually took part in the proceedings; but during the year 1897, if one may judge from the published Transactions, papers were read or specimens presented by but 44 members in civil practice, or about 15 per cent of the total membership of the society.

As a result of the small attendance and the still smaller number of active participants, and in consequence of the fact that at least one-half of those present at any one meeting are present at every meeting, there is likely to be, indeed some may say there actually is, a lack of variety in the character of the specimens and papers presented and a tendency toward repetition and monotony in the opinions expressed in the ensuing discussions.

There can hardly be a difference of opinion as to the value of an increased attendance at the meetings of this society and a resultant gain in the number of those who take an active part in its work. But this seems hardly possible while there are so many other medi-

cal societies in this city. Some of these owe their existence to the interest that their members have in some specialty and the assurance of sympathy and community of taste engendered thereby. Others were founded with the idea that the social element should not be excluded from a scientific meeting, and as a school in which the younger men, among their fellows, could without embarrassment acquire experience in debate. But it must be admitted that the existence of so many societies has led to a more or less marked dispersion of effort and ineffectiveness of result and, therefore, to a minimum of advantage to the maximum of the profession.

The value of the social element should not pass unrecognized. It is a good thing for doctors to meet somewhere except at the bedside, to learn to know each other, and in a life full of struggle and surrounded by so much sorrow, to seek relaxation among those whose aims and duties are akin to theirs. And it is also quite natural that the younger men should wish to make their first literary venture, their first appearance in debate, among those of equal age and experience.

Furthermore, most of these smaller and special societies have a history and individuality of their own; their meetings are well attended, the contributions of their members are interesting and valuable, and a natural pride is taken in their traditions, their success and their prosperity. The time is not yet ripe, nor is the period soon likely to arrive, when the societies that are now spoken of would consent to give up their separate existence and become merged in the Medical Society of the District, although it is possible that, in a very few instances, one of the smaller or special societies might maintain its organization as a social body and transfer its scientific allegiance to the older and larger association.

Yet, after all, it is through singleness of purpose, enthusiasm, and coöperation and coördination of effort that worthy things are done, and it would, therefore, seem best for all the various medical groups to unite—to become amalgamated in some way—that scientific health may be preserved and scientific growth stimulated. Whatever form this union takes (an Academy of Medicine with separate sections and occasional combined meetings would seem desirable) the end would be eminently satisfactory. It is more than likely that greater interest and enthusiasm would be infused into this body, there would be a larger attendance and an increased number of active participants at its meetings, a larger variety of topics would be brought to its attention, new individualities would be introduced and, what perhaps is most important of all, the discussion of morbid conditions from a variety of general and special standpoints would be encouraged, and opinions as to diseased processes would become more broad and tolerant, and knowledge of medicine as a whole greatly enhanced.

Shall our first Secretary of Public Health be an anti-vivisectionist, Christian scientist, homeopath, electic or member of the so-called regular school?

How much will it be necessary for him to contribute to the Campaign funds to secure the position, or will work in the ward be deemed sufficient?

Notices and Reviews.

AN AMERICAN TEXT BOOK OF DISEASES OF THE EYE, EAR, NOSE, AND THROAT. Edited by G. E. de Schweinitz, M. D. and B. Alex. Randall, M. D. Philadelphia. W. B. Saunders. 1899. Price, Cloth, $7.00 net. Sheep or Half Morocco, $8.00, net.

The American Text-Book series has demonstrated its worth and has had its reward in the appreciative reception which has been accorded to it. There is no doubt that this new aspirant for favor will take rank with the other volumes of the series. In the portion of the work devoted to the eye, its embryology, anatomy, histology, physiology, diseases and injuries are discussed in twenty-four sections by twenty-four authors; its operative surgery in seven sections by as many authors; while certain practical details in the examination for color-blindness among railroad employés etc., receive attention in an appendix containing five sections. In the portion of the work devoted to the ear, its anatomy, physiology, diseases, and injuries are discussed in thirteen sections by fourteen authors; while diseases of the nose and throat are described in twenty sections by nineteen authors. Certain novel features not usually found in text-books may be noted; special articles on the standards of form and color-vision required in railway service, the Röntgen rays in ophthalmic surgery, the practice of ophthalmic operations on animals' eyes, the most important micro-organisms having etiological relationship to ocular disorders, etc. The labors of the eminent teachers here brought shoulder to shoulder have resulted in the production of a work that will afford a good introduction for the beginner, a valuable handy reference-book for the practioner, and at least quicken some weakening memories in the advanced specialist. The title of the book is an appalling one and at first blush it seems impossible to comprise in one volume studies of the eye, ear, nose and throat. Careful examination of the book, however, will demonstrate that each of these branches has received text-book treatment within the space assigned whilst their important correlations have been better brought out by such juxtoposition. As the editors truly say, specialism has often been carried much too far in the exclusion of attention to the adjacent fields. The oculist cannot dispense with a fair working knowledge of affections of the nose and its accessory cavities; nor should the aurist have to learn at second hand the important teachings of the ophthalmoscope as to his cases. As was said in the beginning, this work is a valuable addition to the American Text-Book series and is destined to take a front rank in the medical publications of the year.

A TREATISE ON HUMAN PHYSIOLOGY. By Henry C. Chapman, M. D. New (2d) Edition thoroughly revised. Cloth, $4.25, net; leather, $5.25, net. Lea Brothers & Co. Philadelphia and New York.

Chapman's Human Physiology is so well and favorably known that it seems hardly necessary to add further words of commendation. The new edition is the result of the author's continued vast experience as an investigator, clinician and teacher. It is this varied experience which enables him to furnish a comprehensive, clear, and modern text-book, intelligible and readily grasped by the student, and especially valuable to the practicing physician, because of its close bearing upon pathological as well as normal conditions. The plan and arrangement are the same as in the first edition. Every page gives evidence of the revision necessary to present to-day's status of this important branch of medicine. Changes are especially marked in the section on the nervous system and whenever necessary to show the great advance recently made in the field of physiological chemistry. It is especially refreshing to read the author's views when discussing tea, coffee, tobacco, and alcohol. But how the author of so valuable a book could be guilty of writing the first two pages of the chapter on reproduction surpasses our comprehension.

THE JOURNAL OF TUBERCULOSIS. Karl von Ruck, M. D. Asheville. April, 1899.

The Journal of Tuberculosis is a quarterly magazine devoted to the prevention and care of tuberculosis. It is edited by Dr. Karl von Ruck so well known for his work in the Winyah Sanitarium in Asheville. Besides two editorials on Immunity in Tuberculosis and Tuberculin Diagnosis, the April number contains four interesting articles by specialists of great repute in the treatment of tuberculosis. The subject of tnberculosis is such an important one that it deserves a journal all to itself. We trust that the profession will sustain the editor and publisher in continuing and improving the Journal of Tuberculosis.

ELECTRO-HÆMOSTASIS IN OPERATIVE SURGERY. By Alexander J. C. Skeene, M. D. New York, D. Appleton & Co. 1899.

The author intends this contribution relating to electro-hæmostasis and the electric cautery in general and special surgery to be considered as a supplement to the third edition of his work on diseases of women which was reviewed in these columns a few months ago. In that book the subject of electro-hæmostasis was referred to, but altogether too briefly discussed. In the first chapter of this new work the author admits that in looking backward upon the evolution of surgical hæmostasis, one of the most agreeably surprising steps observed in the progress towards the ideal is the discovery that an aseptic ligature can be inclosed in the tissues without disturbing the healing process. Nevertheless, he thinks the modern ligature has its defects and failings when employed in certain operations and in some conditions. The majority of surgeons at the present time use silk ligatures in ovariotomy, hysterectomy and similar operations; and yet, according to Dr. Skeene, the silk ligature does not meet all the demands of surgery. He declares that the unfavorable behavior of the silk ligature has been so fully recognized by some of the leading surgeons that they have raised the question whether this non-absorbable ligature should ever be used in abdominal surgery. The very interesting question of the disposal of silk ligatures, as a rule, has not yet been answered fully. Having observed the disappointing actions of ligatures Professor Skeene sought for something better in surgical hæmostasis. He thinks he has found what he sought in electro-hæmostasis. As he says himself, his views are aggressive if not revolutionary but he is willing to bide his time in the hope that the surgical profession will come to his way of thinking.

ATLAS OF DISEASES OF THE SKIN. By Prof. Dr. Mracek. Authorized translation from the German. Edited by Dr. Henry W. Stelwagon. Philadelphia, W. B. Saunders. 1899. Price, $3.50, net.

Any doctor who has bought one of the series of hand-atlases which Saunders is publishing will never be satisfied until he is the possessor of the whole set. The atlas of diseases of the skin is the equal of volumes which have already been noticed in these pages. The American editor, Dr. Stelwagon, rightly declares that the importance of personal inspection of cases in the study of cutaneous diseases is readily recognized. For those lacking clinical facilities, the nearest approach to this method is the opportunity of having at command numerous well-executed colored plates; and an additional advantage is gained in having plates small enough for handy reference, and yet sufficiently large for satisfactory representation. Dr. Mracek has happily succeeded in supplying such atlas-pictures, and the selection of subjects portrayed is well adapted to the demands of average experience. While a few cases relatively rare in America are presented, nearly all are pictures of cases of not infrequent occurrence. In the description of plate 53 we would suggest that "left labium majus" would be better than "left labia majora."

Progress of Medicine.

Hygiene of the Bedroom and Bedstead.

First of all, the capacity of a bedroom should be such as to allow of at least 2,000 cubic feet for each occupant. It should have a flue of at least six inches in clear diameter, and this flue ought not to be in an outside wall, otherwise the chimney is sure to smoke when there is a fire, and it will fail as an up-cast shaft at all other times. The room should, if possible, be warmed by a gas fire, as in this way only can a uniformity of temperature be absolutely maintained, and for very young and very old people nocturnal variations of temperature are extremely dangerous. The sashes of the windows should fit well, and in every instance be provided with plate glass, for the reason that nothing assists the variation of nocturnal temperature like the employment of common sheet glass of the jerry builder.

In all bedrooms the heads of the beds (I assume now that in every case the beds are single, and when there are two that they are placed alongside each other) should have their heads close to an inside wall, and must not be placed between a badly-fitting window and the flue or the doorway. For purposes of ventilation, by far the best plan is the familiar one of making a small space between the middle-bars of the window, by raising the lower sash about two inches against a fixed inner sill plate. In this way a gentle stream of fresh air is diffused over the ceiling, displacing the foul air, and is diffused through the room at a proper temperature.

We come now to the important matter of the bedstead. No bedstead need be more, and all ought to be six feet three inches in length, and no bedstead whatever, if construced on the principles I intend to lay down, need be more than three feet wide. The material must, of course, be some metal, of which the best is steel and the worst is brass.

One of the faults of the old fourposters was that they were far too high. Measuring the bedsteads of a number of first-class hotels, I find that to the upper edge of the mattress, 30 inches and over is the usual height—far too much for any save people much above the average stature. Twenty-four inches to the upper edge of the mattress is far more comfortable for everybody, and the most comfortable bed, in my opinion, in the matter of height, is one on which the occupant can sit with the knee bent at very little more than a right angle. For men of average height (five feet, 8 inches), this will be found to be about 17 inches or just the height of an ordinary chair, and this should include mattress and bedding.

I have completely cured sagging by throwing the top and bottom rails of the frame carrying the wire mattress into a widely opened arch, so that, when unoccupied, the whole wire mattress is slightly arched upward from side to side, and when occupied by an average weight the wire mesh is exactly flat. Turning from side to side in such a bed is a matter of ease for even the feeblest, and the inevitable turning on the back is entirely prevented. The ring in the ceiling, which is no eyesore even in the private bedroom, assists most materially in the movement of those who are in acute illness, and who as chronic invalids, without it, could hardly move at all, and would require every movement to be made for them by nurses. We never know when a bedstead may have to bear a bed of illness; therefore, the ring should have a very common presence in all our bedroom ceilings. Lawson Tait, *The American Med. Quarterly*, 1899, i, 37.

The Rectal Temperature of a Child.

By examination of 100 children of different ages, Hamburger (*Centralbl. fur inner. Med.*, April, 1, 1899) has found that a thermometer, which is passed 5 cm. (2 in.) or more into the rectum of a child, will record higher than ordinary temperatures. A constant temperature was reached when the bulb of the thermometer was a distance of 10 cm. (4 in.), from the anus. At this depth the highest temperature of the body is recorded in less than two minutes, and is at least 0.5° C. (0.9° F.) higher than the axillary temperature. *Med. News*, 1899, lxxiv, 694.

Effect of Mental Overwork in Children.

Graham Brown in the *Scottish Medical and Surgical Journal* for May, states, in regard to mental work and mental exhaustion in neurotic children, that even in the perfectly healthy child we know from many observations that an hour or two of such work produces an exhaustion which is quite perceptible in that it blunts the tactile sense to a degree capable of being measured. In neurotics exhaustion of the cortex is even more readily produced, the visual field, for example, becoming distinctly smaller. This points to the necessity of making the periods of work of a neurotic youth short, and of interposing muscular exercise between each. It might be possible in any individual case, by direct testing of the visual or tactile sense, to say whether too much exhaustion was being occasioned, or, in other words, whether the mental work done was proving too much for the boy. *N. Y. Med. J.*, 1899, lxix, 793

Biological Test for Arsenic.

It is only necessary to let the penicillium brevicaule grow in proximity to a substance containing even the merest traces of arsenic in order for it to give off a strong odor of garlic. This singular fact, reported first by Gosio (Rivista d'igiene e sanitá publica, 1892, p. 201 and 261) has been made use of by the author in discovering arsenic in corn meal, fly paper, drugs, gas, wine, etc. He has made numerous satisfactory control tests. His latest experiments were with pieces of hides supposed to have been treated as a preservative measure with arsenic, but in which no arsenic was to be found by other means such as the Marsh test. Several slices of potato in which holes were bored were laid in Petri dishes and in each of the holes was inserted a piece of the hide about 1 cm long and ½ cm wide. The whole was then sterilized 20 minutes in an autoclave at 115° C. After cooling, ½ cc of sterilized water containing spores of the penicillium brevicaule was poured over each slice and the cultures were kept at even temperature. After 24 hours the characteristic odor of garlic was discernible on opening the separate dishes. It became stronger with the growth of the fungus. By keeping the cultures at 37°c. the reaction is more rapid. The Marsh apparatus failed in this instance to detect arsenic in a piece of hide 5 cm^2, while by this method it was detected in a piece 1 cm^2. It is necessary to renew the potato culture of the pen. brev. but once a year. Abba F.—Ueber die Feinheit der biologischen Methode beim Nachweis des Arseniks. *Centralbl. f. Bakt.*, etc., 1898, iv, 806.

The Differential Diagnosis between Lymphadenoma and Leucocythemia.

LYMPHADENOMA.

1. Marked changes in the composition of the blood, that of anemia.

2. Production of new lymphatic tissue, with changes in its constancy.

3. Glands affected in the order of frequency are : Cervical, axillary, inguinal, peritoneal, bronchial, mediostinal, intestinal mesenteric.

4. Spleen usually enlarged, by simple hypertrophy, or by large and small multiple nodules.

5. A growth of new tissue in the medulla of the bones.

6. Hypertrophy of the tonsils.

7. Lymphatics in the esophagus may become involved.

8. Lymphatics throughout the whole alimentary tract may become involved.

9. The same is true of the peritoneum, pleura, dura mater, kidneys, testicles, ovaries and lungs.

10. More frequent in the male, in the proportion of 3 to 1.

11. It is especially frequent in early life and late in adult life.

12. In some cases the glands are first involved, in others the anemia precedes the glandular changes.

LEUCOCYTHEMIA.

1. Blood lesions : *a*. A marked increase in the white corpuscles, especially the lymphocytes. *b*. A decrease in the red blood cells. *c*. Varying sizes of white cells are found. *d*. Globules re-

sembling red disks, but with distinct nuclei are present. *e*. The gross appearance of the blood is changed, looking like blood mixed with mucus.

2. Tissue lesions: *a*. Changes in the marrow of the bones. *b*. Enlargement of the spleen to 6—10 or more pounds. *c*. Enlargement of the lymphatic glands. *d*. Leukemic neoplasms in the liver and consequent enlargement of the organ. *e*. Any one of these lesions may be primary and alone, or all may occur in a single case. *f*. Extravasation of blood is quite common, most frequent behind the peritoneum, and large intestine. *g*. Retinal lesions similar to those of nephritis. *h*. Occurs at any age, but most frequent between 30 and 40. *i*. Men are somewhat more frequently affected than women. Porter, (W. H.) *The Post Graduate*, N. Y., 1899, xiv, 384.

The Hypodermic Use of Mercury in Syphilis.

Jones, S. S. (*Jour. of Cutaneous and Genito-Urinary Diseases*, December 2, 1898,) presents a few practical observations based on personal experience in private practice, and gives the result of his endeavor to rid the method of its most objectionable feature—namely, its tendency to occasion pain, inconvenience, and even great suffering. He had been inclined to look unfavorably upon the method from considerations of pain and annoyance, until he came to face the necessity for its use in a critical case of brain syphilis, which led him to seek some method for lessening its disadvantages.

For convenience in use, the author had a tablet made containing bichloride and sodium chloride, of each one-fourth grain, cocaine one-sixteenth grain, which he found could be readily serviceable and at hand.

The author believes the method superior to others. (1) Where danger threatens organs whose functions are vital or important, as lesions of brain, heart, eye or ear; (2) in ulcerations resembling tubercular or malignant disease, especially of the tongue; (3) in those cases where other methods are not tolerated or when time is valuable.

The injection should be made into muscle, the needle being washed after discharging syringe. The author, however, has found it not always possible to inject into muscle, and has found no ill-results from injection into the subcutaneous cellular tissue. He believes the most eligible sites to be in the cellular or muscular tissue between the scapulæ and the iliac crests. Jones, (S. S.) *Journ. Cutan. and G.-U. Dis.*, Dec. 2, 1898, [*Buffalo M. J.*, 1899, liv, 695.

Gonorrheal Epididymitis Quickly Relieved by Salicylate.

Picot (*Gaz. heb. de Med. et de Chir.*, April 16, 1899) has used salicylate of soda in the treatment of gonorrheal rheumatism with great success. The patient should first be given a thorough purge with sulphate of magnesia, an ounce or more. The next day, the intestine having been thoroughly emptied, and rest in bed with elevated testicles being enforced, the salicylate is given in four doses of fifteen grains each. This is repeated each day as long as is necessary. If the medicine is stopped too soon the symptoms will reappear. In ordinary cases the swelling and pain and induration quickly disappear. It may be necessary to repeat the Epsom salts, as it is of the first importance to keep the bowels open during treatment. *Med. News*, 1899, lxxix, 694.

Sterile or Antiseptic Ligature Material.

By Dr. Haegler. (*Centralbl. f. Chir.*, 1899, No. 5). The author reports the results of his study of this question. The numerous cases in which ligatures are discharged from wounds some time after an apparent aseptic healing led him to make a careful study of the sero-purulent discharge found with them, and of the ligatures themselves. Cultures showed that the discharge was free from bacteria, but microscopic sections of the knots of silk ligatures showed numerous bacteria in the substance of the ligatures.

The ligature material had been carefully tested before it was used, but still

the bacteria were found. The author then made the observation that a perfectly sterile ligature drawn through the hand, sterlized, so far as possible, would yet become infected from the skin. If, however, the hand was recently dipped in a sublimate solution the infection did not occur. As a consequence, he determined to employ sublimated silk ligatures. No further discharge of ligatures has been noted since this plan was adopted, some three months previous to the author's report.

It is not necessary to leave the ligatures in the sublimate solution for a long time, as the same result can be attained by boiling them in the solution. *The Post-Graduate*, 1899, xiv, 510

Deep and Surface Temperature of the Human Body.

M. S. Pembrey and B. A. Nicol (*Journal of Physiology*, vol. xxiii, p. 386) give the results of a large number of observations made upon the deep and surface temperature of healthy persons under various conditions. The following are amongst the most important results obtained :

1. The average rectal temperature for the twenty-four hours is 98.2° F. ; that of the urine is 98.6° F.

2. The average for the time of activity (7 a. m. to 11 p. m.) is 98.5° in the case of the rectum, 99.1° in the urine ; the respective values for the period of rest (11 p. m. to 7 a. m.) are 97.4° and 97.6°.

3. The maximum daily temperature is reached about 6 p. m., the minimum about 2 a. m.

4. Muscular exercise produces a marked rise in the internal temperature ; mental work has very little influence, while rest and sleep cause a decided fall. The latter, indeed, is the most important factor in producing the fall in the curve of daily temperature.

5. Food produces a slight rise in temperature.

6. The temperature of the rectum shows an average excess of 1.1° F. over that of the mouth. The latter is not an exact measure of the deep temperature ; it is unreliable, especially after severe exercise or in cold weather.

7. The surface temperature of the skin of the parts covered by the clothing is fairly constant. *Medical Age*, Detroit, Mich., 1899, xvii, 470

Winkler's Test for Free Hydrochloric Acid in the Stomach Contents.

A small quantity of the normal filtered stomach contents, to which a few grains of dextrose has been added, is poured out on a clean porcelain plate ; add a few drops of a solution of alpha-naphthol, and heat gently. A violet-blue color is developed, which rapidly changes to inkish black. Or a standard test solution may be kept on hand, made by adding to a five per cent. alcoholic solution of naphthol a one-half to one per cent. solution of grape-sugar. As in the Günzburg and the Boas tests, so also in this one, there is a negative reaction if, instead of free hydrochloric acid, sulphuric or phosphoric acid is present. *Centbl. f. inn. Med.;* Ref., *O. Med. Jour.*, 1898, ix, No. 10, p. 239.

The Chemistry of the Peptic and Tryptic Digestion of Proteids.

The author made some studies upon the digestive effect of pepsin upon proteids, and from his experiments comes to the conclusion that a weak peptic digestion produces substances which are not percipitible by ammonium sulphate. These substances do not show the color reactions which are given by genuine preteids. If the digestion is continued longer substances are formed which can be extracted with ether. Bodies so obtained do not show the biuret reaction. The experiments showed further that it is possible to isolate from this mixture of decomposition products, bodies which are precipitable by ammonium sulphate, but do not give the charactertic proteid reactions, that may be distinguished from each other by their specific rotatory power. Substances were further obtained which were not precipitable by ammonium sulphate, did not give the color reactions of genuine proteid matter and were distinguishable from each other

by their specific rotary power. The mixture of these bodies constitutes chiefly the amphopepton of Kühne. By a very much longer and very active peptic digestion substances are produced which fail to give the proteid reactions with the exception of the biuret test. They are precipitable by means of the alkaloid reagents. In addition, crystalline decomposition products are formed in a moderate amount. The last substances are for the most part already preformed in the walls of the stomach. The others are produced during the course of the digestion.

The experiments showed that the tryptic digestion of the matter, produced a mixture of substances which are precipitable by phosphotungstic and sulphuric acids but not by ammonium sulphate. This mixture contained substances which did not give the biuret reaction. An active peptic digestion causes a complete decomposition of the proteid bodies.

THE ACTION OF THE "LAB" FERMENT.

Danilewsky had already found that the "lab" ferment, caused in solutions of the products obtained by the peptic or tryptic digestion of proteid matter, a precipitate which showed the propertis of coagulated proteids. The author found that the ferment acting upon those substances which are not precipitable by ammonium sulphate was without effect. In general the following conclusions may be drawn from the experiments that were made: That the substances produced by the digestion of proteid matter which are not precipitable by ammonium sulphate are not converted into genuine proteids either by the action of the "lab" ferment or by heat. Hence, as they do not show the color reactions of the genuine proteids, they must be considered as decomposition products of proteids. The quantity of these substances formed depends upon the length and intensity of the digestion. All of the experiments showed that the peptone of Danilewsky is the last member of the chain of substances produced by the proteolytic (?) ferments of the body from albuminoid matter, which possesses all of the color reactions of the proteids, and can, by drying or by the action of the "lab" ferment, be converted into genuine proteids. D. Lawrow. Zur Kenntniss des Chemismus der peptischen und tryptischen Verdauung der Eiweisstoffe. Hoppe-Seyler's *Ztschr. f. physiol. Chemie*, Vol. 26, pt. 6., Feb. 16, 1899.

Estimation of Indican in Urine.

Amann (*J. Chem. Soc.*, 1898). Twenty cc. of urine are gently shaken with a few drops of sulphuric acid, 5 cc. of chloroform and 5 cc. of a 10 per cent. solution of sodium persulphate; the indigo thus generated dissolves in the chloroform, coloring it a more or less deep blue.

This reaction is more delicate than the oxidation by means of a hypochlorite, hypobromite or permanganate, and is not interfered with by the presence of albumin. Skatol gives a reddish violet coloration with the reagent, but the coloring matter does not pass into solution in the chloroform; the intensity of the color corresponds with the amount of skatol. *Rev'd Buffalo Med. J.*

When Shall the Post-Pregnant Woman Sit Up?

Just what influence is at the bottom of the rule-ridden system that directs us in most obstetrical customs it is hard to say, unless it is due to the general similarity of labor with its fore and after accompaniments. No other branch of medicine seems to be guided by such arbitrary rules as obstetrics. When ergot-giving was in vogue every patient, strong or weak, must receive the inevitable drachm. The binder had to embrace every abdomen, large or small; the vaginal douche scoured all vaginæ, clean and unclean; and even the dear doctor's visits must be regulated by the calendar rather than by the medical needs of the patient.

The patient's escape from her puerperal bed has been under the chain of rule and regulation. The obstetrical statistician, and we are all statisticians, gathers from a thousand recorded confinements that the average length of

time in bed was eight or nine days, and as most of the patients lived and had other babies this length of time, therefore was the best time, etc.

All of which was very absurd. If a doctor's judgment is so poor that he had best follow averages, he had better "brush up". Put a healthy, strong man in bed and keep him there for a month, and he will get up invalided for the time being. It is just as bad to keep one woman fourteen to twenty-one days in bed as it is to let another one up in four to seven days. Many healthy, well-exercised women do not need to remain recumbent longer than from seven to nine days, while some can begin to get up upon the fifth day without apparent harm. Patients whose muscles are "soft" and who have been accustomed to indolent, lazy living, will require from twelve to twenty-one days, even though there are no lesions of the uterus or perineum. Lacerations along the genital tract place those so injured in a class by themselves. They cannot get up until their wounds have healed. A good working rule, which always requires individual application, is that a patient should begin to sit up whenever she can do so without such posture causing gravity congestion in the genitalia. The changes of posture sometimes causes an increase in appetite, and even acts as a stimulus to the uterine muscle. The erect posture should, of course, be assumed quite gradually, the patient sitting up only a few minutes at a time, lengthening the time according to the sense of comfort and absence of effect upon the lochial flow. Much assistance to uterine involution can be had by the use of sponge baths, ergot, strychnine, and massage.

The one great difficulty in the practical application of individually determined periods for getting up lies in the objection that the surgical doctrine of non-intervention imposes in the care of women in the days immediately following labor. We should not palpate the uterus per vaginum at such times if we can avoid it.

And this gives more excuse for practicing by rote than most such work deserves. Repair of the cervix immediately after delivery is generally opposed, and we think justly; but when we judge from the general condition of the patient that she might be benefited by sitting up, we are justified and obligated to make a speculum examination to note the condition of the cervix and inferentially of the endometrium after the seventh day.

There is probably more general ignorance in physicians regarding the phenomena of genital behavior in the fortnight following labor than in all the other periods of pregnancy combined. We cannot say that we would have them endeavor to clear away this ignorance by frequent direct examinations, for more women would probably be harmed than helped for a time, but we do hope there will be a gradual improvement in the attention given by teachers and a consequent advance in diffused knowledge that will enable all to apply the rule of individuality in all cases as to when the post-pregnant woman shall sit erect. *Obstetrics*, *N. Y.* 1899, i, 349.

Deep Respirations as a Prophylactic in Hepatic Colic.

M. Möbius (*Nouveau Montpellier medical*, April 30th.,) has found that in a patient subject to attacks of hepatic colic he was able to avert the crises by "massage of the liver," as follows: The patient is directed, on first warning of an attack, to take slowly as deep an inpiration as possible, lasting at least five seconds; the breath is retained for from fifteen to thirty seconds more, and then a deep expiration, lasting from ten to fifteen seconds, is practised. This operation is repeated several times. During this process the liver is alternately depressed and elevated, this action constituting a sort of massage. M. Möbius considers that the absence of hepatic movements is the most common cause of cholelithiasis, which explains, in his opinion, its greater frequency among women, with their thoracic respiration and corset immobilization, than among men.—*N. Y. Med. J.*

OF THE DISTRICT OF COLUMBIA.

MEETING OF MARCH 8TH, 1899.

DR. SOWERS, Vice-President, in the Chair.

Dr. S. S. Adams called attention to the Washington Diet Kitchen, explaining the enterprise, and urging the members of the Society to give it their support. He also invited attention to a Society of St. Paul's Church, organized for the purpose of furnishing food and needed articles for the destitute poor. He endorsed both of these as worthy enterprises. Dr. Motter also endorsed them.

Dr. Lamb presented the following pathological specimens with report of cases :

(*1.*) *Primary cancer of stomach, not involving pylorus ; secondary cancer of liver.*—From a colored man age 52 ; hospital patient. Admitted Oct. 8, 1898 ; died Oct. 21st. Much emaciated when admitted ; had lost 55 lbs. weight ; appetite fair ; bowels regular ; no vomiting ; nor diarrhœa. Temperature mainly subnormal ; pulse and respiration about normal. Symptoms rather obscure ; none suggested abdominal trouble. Post mortem examination : Emaciation extreme ; heart weighed only 7 oz. ; brown atrophy ; some atheroma of coronary arteries ; ascending aorta thickened ; old adhesions and œdema of lungs ; stomach much contracted, walls everywhere thickened except at pylorus and to some extent at cardia ; the thickened cancerous mass in places ulcerated and with brownish sloughs ; large cancerous nodules ; perigastric glands also large and cancerous ; firm old adhesions of stomach, liver, pancreas, diaphragm and transverse colon ; left suprarenal capsule cancerous ; spleen atrophied ; pancreas and intestines normal ; lumbar glands cancerous.

(*2.*) *Primary cancer of stomach not involving cardia ; secondary cancer of liver.*—From a mulatto woman age 45, who was said to have had good health until December, 1898. Admitted to hospital Dec. 12th ; died Jan. 25, 1899. The main symptoms were vomiting with pulsation over adominal aorta in umbilical region. Post mortem examination : Extreme emaciation ; general anemia ; bedsore on buttock ; brain anemic ; old adhesions of and some bronchitic exudate in lungs ; bronchial glands deeply pigmented ; heart about normal in size ; showed firm old interpericardial adhesions, some fatty degeneration of mitral valve ; some atheroma and fatty degeneration of ascending aorta ; stomach much contracted by cancerous thickening involving all the organ except the cardia ; two deep ulcerations in this growth penetrating deeply into adjoining left lobe of liver ; liver showed many cancerous nodules, varying in size, some umbilicated ; perigastric glands cancerous ; old peritoneal adhesions of stomach, liver, etc. ; spleen much atrophied ; pancreas and intestines normal ; kidneys anemic ; lumbar glands cancerous ; uterus and appendages atrophied.

(*3.*) *Primary cancer of stomach ; secondary cancer of liver.*—From an old man, a Venezuelan, who died Sep. 7, 1898. Post mortem examination : Body had been embalmed by injecting fluids into the vessels and also directly into abdominal cavity ; in the latter procedure the stomach and intestines had been opened and their contents had largely escaped into abdomen interfering with my examination. Body emaciated and jaundiced ; double inguinal hernia, spontaneous reduction ; some œdema and old adhesions of lungs ; some cancerous glands in lower mediastinum ; lower rib car-

tilages, mainly on right side, showed marked curvature apparently from pressure of cancer nodules of liver; heart flabby; atheroma of coronary arteries; liver 8.75 lbs., studded with cancer nodules varying in size, some umbilicated; greater omentum much shrunken and adherent to liver; splenic artery calcareous; pancreas apparently normal; stomach showed ulcerating cancer in lower anterior part; intestines normal; both kidneys were on right side, the left below the right; lumbar glands cancerous, and some cancer nodules of vesical peritoneum.

(4.) *Cancer (interorificial) of stomach; of liver, pancreas, etc., occurring many years after removal of cancerous cervix.*— From a white woman, aged 70 years, who died July 3, 1898. Said to have had a cancerous cervix uteri removed many years before by Dr. F. A. Ashford of this city. Post mortem examination: Body fairly nourished but somewhat jaundiced; heart and lungs normal; stomach showed thick cancerous growth involving lesser curvature and adjoining stomach-wall, projecting everywhere prominently into the stomach-cavity, which was much smaller than normal; greater curvature showed thickening; cardiac and pyloric orifices normal; the growth had ulcerated into the pancreas which was adherent to the stomach; perigastric glands also involved in the growth; liver was yellow in color and showed many cancer nodules, some of them umbilicated; spleen and intestines normal; small watery cysts in kidneys; uterus atrophied and cervix apparently absent, not patulous; ovaries atrophied.

DISCUSSION.

Dr. Parsons, referring to Dr. Lamb's 4th specimen stated that an operation for the removal of the cancerous cervix had been performed by Dr. Ashford of this city in November 1879, 18 years and 8 months previous to the patient's death. The growth removed was about the size of an orange. Since then the patient had never been strong and well, but was comparatively comfortable. Her last illness began in December, 1898. The stomach symptoms were not especially marked; there was no pain, but a gradual failure in digestion and later, regurgitation of food. Finally the stomach would retain nothing.

As regards Dr. Lamb's second specimen, the patient noticed a swelling in the right side, eight years ago. It gradually increased in size and appeared upon the left side. There was never any pain in the region of the liver. There was progressive emaciation, and inability to retain food. The patient finally died from exhaustion.

Dr. S. S. Adams, referring to Dr. Lamb's fourth specimen, said that considering the frequency with which recurrence of the cancerous growth occurred, the result of this case must give us hope as to the possibility of radical removal of these growths. This patient lived 18 years after the cancer had been removed, and during this time there was, so far as we know, no recurrence.

Dr. Jos. Taber Johnson said, that his experience had impressed upon him more and more the hopelessness of effecting a radical cure in well-defined cases of cancer. So many of these growths return, the operation is dreaded by surgeons. They cannot offer the patient much in the way of encouragement that the cancer will not return in 2 or 3 years, or even less. Emmet has said, that when a growth of this kind does not recur after operation, we can be tolerably sure that it was not cancer. As the diagnosis in the case referred to was not verified by microscopical examination, it may not have been cancer.

Dr. J. Ford Thompson doubted the correctness of the diagnosis of carcinoma in this case. In the first place, the growth is said to have been "as large as an orange" this is rarely the shape or size of a cancerous growth in the cervix

uteri. He had usually found a recurrence of cancer of the uterus—five years being the longest any of his patients had escaped. Fifteen years ago he removed the cervix uteri from a patient for cancer, expecting that it would recur. Recently he has learned that the woman is still living. His diagnosis in this case was not substantiated by microscopical examination, and he does not now believe that the growth was cancer. It was like many cases we see from whom a "breast cancer was removed 20 years ago." He does not believe such cases are cancer. A cauliflower-like growth is not uncommon, and if taken out it will not return. Such a villous growth is also met with in the rectum. It is not however carcinoma, nor has it the characteristics of a carcinoma. It is very difficult to distinguish with nicety between the different varieties of cancer. When a growth in the cervix presents much hypertrophy, and proliferation of cells and especially when it has a cauliflower appearance, it is usually only slightly malignant. When, however, the growth is indurated, and if ulceration is present, nine times out of ten, it is a carcinoma. He called to mind a patient from whom Dr. Ashford removed such a cauliflower like growth. It was believed by all to be a cancer. He, however, did not think so. There are very few cases indeed of removal of cancer from the cervix where the patient lives 18 years after the operation. It is important to note also that such results are not obtained in any other part of the body. For these reasons he was inclined to doubt the correctness of the diagnosis of cancer in the case under discussion. Dr. Kober asked Dr. Thompson whether he believed that the patient could not have lived 18 years if the growth removed from the cervix had been carcinoma. Dr. Thompson in reply said he had never seen such a case. The general rule was that if, in these cases, the growth does not return within three years, there is doubt as to the correctness of the diagnosis. He had however seen recurrence after five or more years.

Dr. Parsons asked Dr. Thompson whether the diagnosis in the cases of breast cancer which he had mentioned, had been confirmed by microscopical examination.

Dr. Thompson said in reply that it had been. In his remarks he did not refer to the operation as now performed, but to the superficial operation formerly done which could not possibly have effected a radical cure in any case of carcinoma of the breast. Dr. Thompson referring to Dr. Lamb's 3rd specimen, said that he had seen the case in consultation. It was an inoperable case. He thought the deformity of the costal cartilages of no importance; he had seen it frequently, and it was not a part of the disease. As regards the operation for cancer of the stomach, he was astonished that no surgeon in this city has ever been called upon to perform a radical operation in cancer of that organ. He had recently read of a second case of complete extirpation of the stomach for cancer. The patient recovered, and now is said to have as good an appetite and digestion as formerly. He recollected a case in which, after celiotomy the stomach was found to be cancerous from one end to the other. He abandoned the operation, but in the light of our present knowledge, he would now extirpate the stomach. The patient would then have a chance for recovery, and if he died, it would be but a relief. As before stated, no surgeon in Washington has been called upon to extirpate the stomach, or perform a gastro-enterostomy. When he has been summoned in these cases, the patient has been so nearly dead, that he could not operate. Many lives would be saved or at least prolonged if the surgeon were called as soon as the diagnosis is made. There is no reason why Washington should be behind in the performance of this beneficent operation.

Dr. Lamb in closing the discussion said, that with our present knowledge of tumor formation he thought it possible that this patient (No. 4.), might have had more than one point of cancer-

ous formation. He believed that the growth in the stomach in this case was a primary cancer at that point.

Inasmuch as there are so many degrees of malignancy of tumors, the surgeon should remove all suspicious growths as early, and as completely as possible.

A REPORT UPON THE EXAMINATION OF MILK FURNISHED BY BY THE PASTEUR MILK LABORATORY OF WASHINGTON, D. C., FROM JANUARY 1, 1898, TO FEBRUARY 1, 1899.

By E. A. de Schweinitz, M. D.

The report was published in full in the National Medical Review, for April 1899.

DISCUSSION.

Dr. Acker thought that the Society owed a vote of thanks to the members of this committee—Drs. de Schweinitz, Kober, and S. S. Adams. They had supervised the work in person and had expended time and labor upon it, and had accomplished much. The laboratory had proved a great benefit to the medical profession. He had found the milk superior to any other that could be obtained, and should continue to use it.

Dr. Kober said that by far the greatest part of the work of the committee in connection with the milk laboratory had fallen upon Dr. de Schweinitz, and to him more than to any one else, credit was due. Dr. de Schweinitz, had made frequent bacteriological examination of samples of the milk furnished by the laboratory and thus a complete control over the sanitary condition of the dairy exercised, as the number of bacteria per cubic centimeter indicates very closely the degree of cleanliness observed, as well as the healthfulness of the milk. When it was found, for instance, that the number of bacteria per C. C. increased, an investigation would always disclose the cause, in some laxity in cleanliness in handling the milk. This being corrected, the number of bacteria returned to the usual average number. The greatest difficulty in this regard was encountered at the farm, where the employes were of a lower mental order than those in the laboratory, and therefore did not appreciate the importance of absolute cleanliness. He was satisfied that the mere presence of such a laboratory gave rise to a healthful competition in the city, and has resulted in furnishing a better quality of milk by all the dairies. He believed that the other dairies were trying to bring their milk up to the standard set by the laboratory. Anyone who invests his capital and labor in such an undertaking deserves credit and encouragement. Although the milk is sold at 2 cents a quart more than ordinary milk, the establishment had hardly paid expenses. He emphasized the fact, that the milk furnished by the laboratory is not only superior as regards wholesomeness, but that it is also much richer. The greater amount of fat present increases the nutritive value, so that it is in reality cheaper than other milk.

Dr. Ward said that he thought it was a mistake to call the establishment a laboratory. The public gathered from the name, that the milk is "doctored," or prepared in some way; and for this reason they might not use it as much as they otherwise would. It would be better to call it a dairy, a name with which the public is familiar. The public should also be acquainted with the fact that the cream does not rise upon this milk as quickly as it does upon other milk.

THE RESULTS IN ADMINISTERING THE ANTITOXINE OF DIPHTHERIA AS AN IMMUNIZING AGENT.

By Samuel S. Adams, M. D.

At various times during the past few

years diphtheria has been introduced into the wards of the Children's Hospital, thereby crippling the efficiency of the work, and in some instances necessitating the closing of the hospital to the admission of new patients. While these annoyances were greatly abated by the prompt administration of the antitoxine of diphtheria, as a curative and immunizing agent, nevertheless, in the fall of 1897, the Staff was very much embarrassed by the appearance of diphtheria among children who had been resident in the institution for some months. Many attempts were made to eradicate the disease by thorough disinfection and improvement in the plumbing and hygienic surroundings, but all seemed futile. In November 1897, the number of cases greatly increased. Several children who had been discharged, but were permitted to stay in the institution until after the Thanksgiving holiday became victims, I therefore obtained the consent of my colleagues to administer the immunizing dose to every child in the hospital, as well as to every one who should be admitted during the year beginning December 1, 1897, regardless of the nature of the disease at the time of admission, to guard against such calamities. This plan was strictly pursued until the latter part of August, 1898, when the surgeon in charge directed that no more cases admitted to his service should receive the antitoxine, so from this date the surgical cases that were admitted were exempted.

My object in administering the immunizing dose was to determine :

First : The effect of antitoxine in preventing the further spread of diphtheria in the institution ;

Second : To determine the duration of the immunity afforded by the antitoxine;

Third : The effect of the antitoxine upon the kidney, as evidenced by the condition of the urine before and after its administration ;

Fourth : To record all of the disagreeable symptoms produced or supposed to be produced by the administration of the antitoxine.

The following table shows the diseases from which the patients were suffering at the time the immunizing dose was administered.

List of diseases from which the patients were suffering at time of administration :

Abscesses	5	Keratitis	15
Adenitis	9	Leucoderma	1
Adenoids	1	Marasmus	1
Anaemia	1	Meningitis	3
Angioma	2	Morbus Coxae	10
Appendicitis	3	Nephritis	2
Arthritis, Knee	10	Neuralgia, face	1
Bronchitis	29	Ophthalmia purulent	5
Burns	9	Osteo-myelitis	13
Cachexia, Malarial	1	Otitis Med. Sup.	7
Chorea	4	Paralysis, Infantile	3
Cicatrix	1	Peritonitis, tubercular	1
Conjunctivitis	7	Phertussis	1
Contusion, Hip	1	Pharyngitis, Acute	1
Curved tibia	5	Phimosis	15
Cystitis	1	Pneumonia, Broncho	11
Dermatitis	2	Poisoning Olei Gauthariae	1
Eczema	10	Pneumonia, Lobar	12
Empyaemia	2	Prolapse rectum	2
Endocarditis	6	Rachitis	10
Enteritis	2	Rheumatism	1
Entero-colitis	2	Sarcoma	3
Enuresis	6	Scorbutus	1
Epilepsy, Petit Mal	3	Seborrhoea Sicca	1
Fecal Impaction	1	Spondylitis	3
Fever, Enteric	32	Sprain Ankle	1
Fever, Intermittent	18	Strabismus	1
Fever, Remittent	15	Stricture, Oesophagus	3
Fracture	19	Syphilis, Cong.	3
Furunculosis	1	Talipes Valgus	3
Gastritis, Acute	2	Tinea Cap.	5
Hairlip	2	Tonsilitis cat.	2
Helminthiasis	2	Torticolis	1
Hernia, Ing.	2	Tuberculosis	20
Hydrocephalus	1	Ulcer, head	2
Idiocy	1	Urethritis, specific	5
Imbecility	1	Vaginitis, specific	7
Infected finger	1	Wounds	2
Influenza	2		
Innutrition	4	Total	422
Intestinal Catarrh	2		
Intestinal Indigestion	15		

From the above table it will be seen, there is ample opportunity to study any ill effects antitoxine might produce.

So much has been written and so much more said about the injurious effects of antitoxine, when administered as a curative agent in previously healthy children, that I considered this institution a good field for studying the ill effects, in any, as well as the good. Many of the patients whose ailments are recorded above, were extremely ill when admitted to the institution, but this did not deter us from pursuing our experiments. As recently diphtheria was evidently contracted by several very sick children a few days after their admission, we felt justified in trying the experiment, believing as we did, that they might contract diphtheria and die, while the protective dose of antitoxine would give them an opportunity of recovering from the disease for which they were admitted. It must be borne in mind that all of the children in this institution are under treatment, and that many of them had been in the hospital long enough to become hospitalized. Under such circumstances, it would naturally appear, they were much less favorable for injection than perfectly healthy children seen in private practice, hence it would seem, if any deleterious effects were to be produced by the immunizing dose itself, these children would be more liable to injury than the perfectly healthy.

422 of the children received the immunizing dose. 100 units were given to infants, and 250 units to those between two and six years of age. Of this number 17, or 4.28 per cent contracted diphtheria. The ages varied from one month to 12 years, the list included male and female, white and colored. In those children who subsequently contracted diphtheria, the curative dose was administered as soon as the clinical diagnosis was made. In all the cases of diphtheria, the bacteriological examination confirmed the clinical diagnosis.

The following cases are given to illustrate the duration of the immunity.

Case I. E. H., male, 5 years old, Adenitis, cervical; December 3, 1897, 250 units; diphtheria January 3, 1898; duration of immunity one month. Discharged from quarantine February 7, 1898.

Case II. B. H., female, 5 years old, Keratitis, scrofulosa; December 26, 1897, 250 units; diphtheria January 18, 1898; duration of immunity 23 days. Discharged from quarantine February 17, 1898.

Case III. R. J., female, 8 years old, Tuberculosis, pulmonary; December 20, 1897, 250 units; diphtheria January 24, 1898; duration of immunity one month, 4 days. Discharged from quarantine February 17, 1898.

Case IV. A. W., female, 11 years old, Gastritis, chronic; January 25, 1898; 250 units; diphtheria February 7, 1898; duration of immunity 11 days. Discharged from quarantine February 26, 1898.

Case V. J. H., male, 22 months old; Rachitis, acute; December 24, 1897, 250 units; diphtheria February 7, 1898; duration of immunity 1 month, 14 days. Discharged from quarantine February 26, 1898.

Case VI. R. M., female, 9 years old, Enteric fever; January 11, 1898, 250 units; diphtheria April 5, 1898; duration of immunity 3 months 24 days.

Case VII. M. F., female, 10 years old, Necrosis Os Calcis, January 11, 1898, 250 units; diphtheria April 5, 1898; duration of immunity 3 months, 24 days. Discharged from quarantine May 9, 1898.

Cases VI and VII developed scarlet fever in conjunction with diphtheria, and were discharged from quarantine May, 1898.

Case VIII. E. S. female, 2½ years old; Broncho-pneumonia; February 26, 1898, 250 units; diphtheria April 5, 1898; duration of immunity 1 month, 7 days. Discharged from quarantine May 9, 1898.

Case IX. F. M., male, 1 year old, Phimosis; April 7, 1898, 250 units; diphtheria April 22, 1898; duration of immunity 15 days. Discharged from quarantine June 8, 1898.

Case X. A. B., female, 2 years old; Scorbutus; December 2, 1897, 250 units; diphtheria April 26, 1898; duration of immunity 5 months, 24 days. Discharged from quarantine May 20, 1898.

Case XI. W. S., male, 3 years old; Rachitis; March 18, 1898, 250 units; diphtheria April 11, 1898; duration of immunity 22 days. Discharged from quarantine May 14, 1898, and died May 21, 1898.

Case XII. H. A., female, 6 years old; Osteo-myelitis; May 25, 1898, 250 units; diphtheria June 11, 1898; duration of immunity 17 days. Discharged from quarantine July 28, 1898.

Case XIII. R. R., female, 17 months old; Enteritis; June 15, 1898, 100 units; diphtheria July 1, 1898; duration of immunity 15 days. Died July 14, 1898.

Case XIV. R. G., male, 10 years old; Cervical adenitis; June 8, 1898, 250 units; diphtheria July 11, 1898; duration of immunity 1 month 3 days. Discharged from quarantine July 27, 1898.

Case XV. M. R., female, 3 years old; General tuberculosis; June 16, 1898, 250 units; diphtheria August 20, 1898; duration of immunity 2 months, 4 days. Discharged from quarantine August 24, 1898.

Case XVI. R. C., female, 6 years old; Enteric fever; September 8, 1898, 250 units; diphtheria October 5, 1898; duration of immunity 27 days.

Case XVII. E. M., female, 7 years old; July 10, 1898, 250 units; diphtheria October 5, 1898; duration of immunity 2 months 25 days. Discharged from quarantine November 14, 1898.

In an infant two years old, who received 250 units, the maximum duration was 5 months, 24 days, while the minimum duration was 11 days, in a girl 11 years old, who also received 250 units. The average duration of immunity for the 17 cases was 51.1 days.

Two of the 17 cases died, or 11.7 per cent. One, 17 months old, received 100 units 15 days before the appearance of diphtheria, and died on the 14th day of the disease. The other, 3 years old, received 250 units 22 days before the appearance of diphtheria, was discharged from quarantine an the 23d day of the disease, and died 7 days later from heart failure.

To determine the effect of the antitoxine upon the kidney, as evidenced by the condition of the urine, careful examinations were made in every case. As soon as possible after admission a specimen was obtained, and a complete urinalysis made. The immunizing dose was then administered, and the following day another analysis made, and in some cases for several days.

In 21 cases albumen was found in the urine before and after antitoxine was administered, but was neither increased nor decreased. In one case albumen was found before, but could not be detected after immunizing.

In 12 cases there existed vaginal or urethral discharge, and albumen and pus were found in the urine. There was no other evidence of nephritis, and when the discharge disappeared the urine became normal. In two cases of nephritis, albumen was found in the urine before and after immunizing. In one of these cases the child was in the last stages of chronic parenchymatous nephritis. He was excreting but a small quantity of urine, the percentage of urea was very low, and casts very numerous. There was general anasarca, and pulmonary œdema was very extensive. This child was exhibited at the clinic as a hopeless case, and it was not intended that he should be immunized. He received, however, 250 units, and singular to state his condition began to improve at once, the urine and urea increased, the casts became less, the anasarca disappeared, and the boy was subsequently exhibited at the clinic and was not recognized by the class. While the improvement was marked, it is impossible to attribute it to the antitoxine, but this much is certain, that it did not produce any serious effects upon the child. The patient subsequently died from recurrence of the pulmonary oedema.

In 23 cases of tuberculosis, albumen and hyaline casts were found after dosage.

In a case of remittent fever, with albumen, blood and epithelail casts in the urine, no change was noted. In the case of osteo-myelitis, albumen and casts were found in the urine, but no effect was noted after dosage. In a case of fracture of the femur, albumen and casts were found in the urine before and after dosage.

In 420 cases no manifestations which could by any possibility be attributed to the effect were noted.

Urticaria appeared in 2 cases ; in one, Osteo-myelitis, the rash appeared on the 7th day after dosage, and was general, but most marked on the face. In the other, phimosis, it developed one hour after the administration of antitoxine, and was most marked on the face, neck and chest.

In injecting the antitoxine, antiseptic measures were observed, and there were no abscesses at the point of injection.

From the cases herein cited, it will be seen that three occurred in January, two in February, six in April, one in June, two in July, one in August, and two in October.

The conclusions which I would draw from the results of these experiments are ;

First : It is impossible to draw any definite conclusions as to the value of the immunizing dose of antitoxine. I am convinced, however, that the dosage was too small, and that if more units had been given, better results would have been obtained ;

Second : The average duration of the immunity, as revealed by the experiments, conforms with that obtained by other observers. We seem warranted in asserting that the larger the immunizing dose, the longer the duration of immunity ;

Third : The immunizing dose of antitoxine has no injurious effect upon the kidney ;

Fourth : Urticaria appeared in two cases, which was the only pathological effect of the antitoxine observed.

I wish to acknowledge, with thanks, the valuable assistance rendered in the preparation of this paper by Drs. Hart

and Fisher, of the Children's Hospital Staff.

DISCUSSION.

Dr. KINYOUN said he was inclined to think the doses in Dr. Adams' cases entirely too small. Experience has shown that the immunity from antitoxine is of short duration. 500 to 1000 units, given immunity for 30 to 50 days. 250 to 500 units, an average immunity of 30 days.

He thought that the action of antitoxine is not well understood. The only agent we care about in the disease is the toxin : the bacteria are only secondary in the role of infection. The toxin, however, is a powerful poison, and is prone to form a permanent union with the cells which cannot be broken up. This union takes place more rapidly than the absorption of antitoxine by the cell : and the union once formed is permanent and persists until the cell is cast off and eliminated. The time, therefore, for the administration of the antitoxine is before this union has taken place.

Experiments with cobra venom and other serpent poisons have shown that hours, or even days are required before the antitoxine is taken up by the cells of the body. Experiments have also shown that if the toxin and antitoxin be mixed and then injected, half an hour or an hour elapses before neutralization is complete. The same thing is true of the antitoxine of diphtheria. The action of the remedy is therefore not immediate—hours or even days are sometimes required before the full beneficial effect of the antitoxine is produced.

The explanation of the physiological effects of antitoxine rests upon the fact that it protects, and fortifies the juices, and tissues of the boby against the poison of the disease.

The antitoxine is first in solution in the blood and lymph and then is stored up in the cells. The first effect produced after injection of this remedy, is the neutralization of the toxin by the antitoxine in solution in the blood and lymph : if more antitoxine is required, the excess which is stored in the cells is liberated. It is also an inherent property of cells not only to store up antitoxine, but to produce it themselves in considerable quantity. Laboratory experiments have confirmed this.

A sufficient quantity of antitoxine should be given,—although a small quantity immunizes for a short time—so as not only to neutralize the toxin already formed, but so that an excess is left, which, being stored up by the cells, will be gradually excreted from day to day. It is unfortunate that the antitoxine does not graft upon the cell the ability to excrete its own antitoxine permanently. It was hoped that this would be found to be the case, but our expectations have not been realized.

As regards ill effects from the administration of antitoxine, he was glad that Dr. Adams had taken the opportunity to demonstrate the harmlessness of the remedy. There had, it is true, been a few accidents following its use—joint pains, rashes, and circulatory and respiratory irregularity. Only two fatal results have been seen in apparently healthy children—these have not as yet been explained. This is however no reason for not using antitoxine. The same ill-effect have followed the use of anaesthetics, opium and other drugs of incalculable value to the human race, and the same argument would of necessity hold good to abandon their use because of an accident.

He asked Dr. Adams whether cultures had been made to determinate whether the bacilli were present in the throats of these children prior to their succuming to the disease.

The period of immunization stated by Dr. Adams is open to critism. Some of the children may have been exposed only a very short time before being taken down. The potency of the antitoxine as an immunizing agent was illustrated in a family of several children which came under his observation :

The eldest child of a family of five, aged 11 years, was ill with a sore throat —accompanied by a membrane. Clinically it was a case of diphtheria, culture and microscopical examination confirm-

ing the diagnosis. Another child had redness of fauces. Cultures taken from all showed the presence of the diphtheria bacillus in two of these. A full therapeutic dose of antitoxine was administered to the eldest child : 1880 units and an immunizing dose of from 600 to 1200 units given to all the others. The antitoxine was furnished on the promise that a clinical record should be kept—as I was then making a collective investigation of the disease. I left a thermometer with the mother with instructions to keep a record of the temperature of the sick child. These instructions were not understood and all had their temperatures taken by the mouth, commencing with the sick child and going down the line-seriatim. The thermometer was not disinfected at any time during the process. Notwithstanding this procedure which was faithfully carried out for three days, no further cases of diphtheria developed—the case making a rapid and perfect recovery.

Here was an accidental infection, mouth to mouth, occurring after the administration of antitoxine, with no ill results. This accident demonstrates the perfect protective power of the antitoxine against the diphtheria infection.

Dr. A. F. King said he did not regard the evidence advanced in favor of the value of antitoxine as an immunizing agent, conclusive by any means. The vulnerable point was in making the mistake of taking the *post hoc* for the *propter hoc*. Here were 400 persons exposed to diphtheria 4.25 per cent of whom contracted the disease. Now, we have had diphtheria in this hospital before, years ago : did more than 4.25 per cent contract the disease when no immunizing agent was used ? This must be considered. We must also compare the results in one hospital when antitoxine was not used, with another hospital when it was used in order to come to a fair conclusion as to the value of the antitoxine as an immunizing agent. It has not been proved that it did immunize these persons. As Dr. Kinyoun says, there are many different ways of getting diphtheria—by inhalation, thermometers, etc. There are also many degrees of exposure to the disease. All these factors should be considered in presenting statistics comparing the susceptibility of persons to whom antitoxine has, or has not, been administered. The conditions as to exposure to infection in the two sets of cases must be the same in kind, and degree, in order to make a real fair comparison, and give a fair result.

Dr. E. L. Morgan said that he had used antitoxine both as a preventive, and in treatment of diphtheria on 126 individuals ; this did not however, represent the number of injections given. He was called to an infant, white, aged 19 months, at St. Ann's Infant asylum, at 1.30 p.m. On examining the child he found some dulness on percussion over the lungs, rales, hurried respiration, and fever ; the tonsils and pharynx irritated.

Called again at 4.30 p.m., and diagnosed laryngeal diphtheria,—the palate, tonsils, and pharynx being heavily covered by membrane. How the child contracted diphtheria is not known. 2000 units xx P. D. and Co. were administered between the shoulder blades. The patient died in convulsions at 11.30 p. m. He then examined the throat of all the children in the Institution, and 14 distinct cases of diphtheria were found ; all had irritated throats and tonsils, some with deposits. Each child was given 250 units of Mulford's antitoxin. If possible at that time, he would not have hesitated to give 1000 units as an immunizing dose, and 2000 in case of diphtheria. He believed that if 1000 units have been given, his successor, one month later would not have had a 2nd. outbreak, furnishing 13 cases of diphtheria. He saw ten cases of skin eruptions following the use of antitoxine which resembled measles, or rubeola and scarlet fever eruptions, mixed. They frequently occurred from the 5th. to 10th. day, he had seen two cases of urticaria occur in 24 hrs., each. This he considers no argument against the use of antitoxine. There were 100 children in the asylum during his term.

Dr. G. Wythe Cook said that Dr. Adams stated that the patients on the

surgical side of the hospital were not given antitoxine. How did the susceptibility of these compare with those to whom antitoxin was administered?

He also asked Dr. Kinyoun whether the antitoxine affects the blood and tissues only—not the bacteria themselves. To this, Dr. Kinyoun replied that the antitoxine did not affect the germ or its growth. It is not a germicide—in fact, the bacteria will live in the antitoxic serum.

Dr. Reyburn said that he was inclined to doubt the efficiency of the antitoxine, in producing immunization. Because the serum was administered to a certain number of children and only a small proportion of them contracted diphtheria, does not prove the point. How many of them would have taken the disease had they not been treated with the antitoxine. He has had charge of 100 children in the Church Orphanage. Diphtheria broke out in 1895–6, and only 35 of them contracted the disease. If he had given them all antitoxine, this small proportion would have been attributed to the serum. This is the weak point in this sort of argument—we cannot tell how many of the persons exposed, would have had the disease if not treated with the antitoxine. Dr. Kinyoun's reply to Dr. Cook emphasizes the value and necessity of local treatment. We should destroy the bacteria which elaborate the toxin—hence, why not use antiseptics locally in conjunction with the antitoxine. He uses with good results, and advocates, bichloride of mercury. With this treatment he has not lost a case of his own for several years. He gives the antitoxine in every case, to give the patient every chance, and uses locally, antiseptic treatment. He believes the best results are obtained from the conjoint use of the spray of solution bichloride of mercury in the strength of 1 to 1000 of water, and the antitoxine.

Dr. J. Ford Thompson said that he would explain why he had stopped the giving of antitoxine to every patient entering the surgical side of the hospital. It was not because he did not believe in antitoxine, but he objected to its use in case of every entering patient as a matter of policy. Patients of all kinds and conditions, and having a great variety of diseases, entered his ward; and under these circumstances, he objected to the indiscriminate use of antitoxine. It involved much responsibility which he he was unwilling to take. Dr. Morgan mentions the case of a patient who died the same night that antitoxine was administered. What would have been his responsibility had one of these entering patients died the same night?

The Children's Hospital is not an experimental hospital. There are larger ones all over the world where experiments are carried on, but he preferred to wait and not to use the hospital for experimental purposes.

This is the most brilliant time in the history of the world in medicine and surgery, and in this line, the treatment of diphtheria has been most brilliant. He admits its value in cases where it is given early. The good results can only be due to the antitoxine. He believed that clinical evidence in questions of this kind was too much neglected. He regarded the evidence of one good clinician as of more value than the results of all the experiments put together. When he is told that 18 out of the 24 cases in his ward are suffering from diphtheria, he loses faith in the value of bacteriological examinations. Other curious things have been told him. He did not, however, wish to criticise, but he believed that the bacteriologists claim too much. When told that the diphtheria bacilli may be present in the throat at any, or all, times, how can one by bacteriological examination diagnose diphtheria? He had great admiration for these investigators, and great admiration for the results of their work—but he did not think it well to adopt all that they advanced, especially when the subject was still under discussion, or to adopt a policy which might injure an institution in the eyes of the public.

Dr. G. Wythe Cook said that Dr. Thompson had not been consistent in his remarks. Whereas, he had previously advocated the performance of complete

extirpation of the stomach, he now objected to the simple operation of immunization by the use of the needle.

Dr. THOMPSON in reply said that the cases were not in any way parallel, as the necessities in the two were entirely different. He also referred to the case in Germany where a child died apparently from a dose of antitoxine, and also to another fatal case which has been reported.

DR. KOBER said: Those who have had the largest experience with this remedy may well endorse the statement of Dr. Goodall in the *Brit. Med. Jour.*: "Few of even the most useful of the agents of the pharmacopeia have been subjected to the same fierce criticism as has the antitoxine of diphtheria, and still fewer have borne the ordeal as triumphantly."

A study of his collection shows that the case mortality from diphtheria in London has fallen from 24.7 per cent in 1894, to 17.4 in 1897. Statistics collected by Eulenberg in Germany, Welch of Johns Hopkins University and the American Pediatric Society indicate beyond all reasonable doubt, that antidiphtheritic serum is, a specific curative agent for diphtheria, surpassing in its efficacy all other known methods of treatment for this disease, and it is therefore the duty of the physician to use it. To those who are not disposed to trust to foreign statistics, he earnestly commended the statistics prepared by Dr. John E. Walsh, in the *Va. Med. Semi-Monthly*, April 8, 1898, giving the results of treatment with, and without antitoxine for two and one-half years in this city.

1895-1896.—Cases treated with antitoxine, 174. Mortality 13.2 per cent; cases treated with other methods, 152. Mortality 34.9 per cent.

1896-1897.—Cases treated with antitoxine, 288. Mortality 7.3 per cent. cases treated without antitoxine, 335. Mortality 26.6 per cent.

These figures represent the experience of the entire Profession of this city, and are therefore entitled to the greatest consideration.

Professor Welch, in a paper read before the Association of American Physicians in 1895, writes: "We have no certain knowledge as to the nature of the substances called antitoxins nor as to their mode of action. This is not, however, an argument against their therapeutic employment, for we have no positive knowledge as to the mode of action of many of our therapeutic agents. There are two prominent theories as to the mode of action of the diphtheria antitoxin. The one may be called the chemical, and the other the vital theory. The chemical theory is that the antitoxin directly neutralizes in a chemical sense the toxins. This seemed to be the natural interpretation of the fact that the injection into susceptible animals of a mixture in suitable proportions of the antitoxin and the toxin, is harmless: but Buchner and Roux have shown that this earlier view is incorrect, and that by selecting animals of greater susceptibility, or by increasing the susceptibility of an animal, the presence of active toxin in the mixture can still be demonstrated. The experimental evidence, therefore, is in favor of the other theory, viz: that the antitoxin acts through the agency of the living body and probably in the sense that it renders the cells tolerant of the toxin. The results of the treatment of human diphtheria with antitoxin also speak in favor of this vital theory."

It has been urged that no reliance can be placed upon bacteriological examinations which reveal the presence of the Klebs-Lœffler bacillus without a clinical picture of diphtheria. But it is well to remember, that infectious diseases do not exist merely because some noxious micro-organisms have taken their abode in the system, for this takes place often enough, but they exist because functional and structural changes have been brought about through the agency of the toxins evolved by these organisms. In brief, in addition to the germ, there must be a suitable soil for their proliferation, and a susceptibility on the part of the cells to feel the effects of the toxins. When the cells fail to respond to the

toxins, we are dealing with cases of acquired or hereditary immunity. I believe that by the administration of the antitoxins we establish a tolerance in the cells, their molecular structure is probably changed, and when thus changed, their structural and physiological peculiarities are reproduced in succeeding cells, and thus there will be an inaptitude of the cells to feel the effects of the same toxins evolved by subsequent invaders. We see the evidences of acquired tolerance almost daily in persons who have become the victims of enslaving drugs, taken in sufficient dosage to kill a dozen other men, and more than this, we see this tolerance in the form of hereditary immunity transmitted to succeeding generations—and how? simply through the agency of the parent cell. In giving remedial or immunizing doses of antitoxine we anticipate therefore, the untoward effects which would result from overwhelming doses of toxins evolved during the course of the disease and in consequence, see a milder course, fewer laryngeal, broncho-pneumonic, and other fatal complications; and every statistical collection shows that the earlier the remedy is used the more prompt and favorable are its effects. It is quite true that paralysis is more commonly observed since the use of antitoxin, but this is not due to the remedy but because more severe cases recover. A goodly number of these very cases would have perished, had not the antitoxine prevented complete destruction of the nerve cells, or their axis-cylinders. Sincerely hopes diphtheria antitoxine will be used without stint or fear, until a better agent is at hand?

Dr. Lochboehler said that he understood that the subject of Dr. Adams' paper was not the efficacy of antitoxine in the treatment of diphtheria, but its efficacy as an immunizing agent. He asked Dr. Walsh to state his opinions upon this subject.

Dr. J. E. Walsh said that he also had understood that the subject under discussion concerned the immunizing value of antitoxine, whereas most of those who had spoken thus far, had spoken of its value as a curative agent. As regards the latter, he would only say that the man who did not believe in the efficacy of antitoxine in the treatment of diphtheria, was ignorant and behind the times.

As regards immunizing effects, he had seen many good examples of its value. A couple of years ago diphtheria broke out in a hospital in this city—in the surgical ward, he thought. Only 2 or 3 cases presented the clinical phenomena of the disease: but of the cultures submitted from about 20 other patients in that ward, the Klebs-Loeffler bacillus was present in 15 or 16. These cases in which the bacilli of diphtheria was found without presenting other symptoms were isolated for a short time until some one in authority said: "These children are all right, it is all nonsense keeping keeping them tied up here" and turned them loose. These children, although apparently immune themselves, were dangerous to others—which was proved by the fact that cases of diphtheria occurred constantly among the inmates in spite of all efforts to eradicate it until the systematic use of antitoxine as an immunizing agent was adopted. For some months past, there have been no more cases of diphtheria in that hospital.

In another institution diphtheria appeared in the persons of 4 or 5 children. Bacteriological examination of cultures from the throats of the other inmates of that dormitory, about 20, showed the diphtheria bacillus present in 5 or 6. These were all isolated and given immunizing doses of antitoxine and cases ceased to appear.

In a third institution a similar condition occurred, immunization with antitoxine and isolation were employed and the same result obtained.

In another institution *forty* cases of diphtheria appeared about the same time. These all presented both the clinical and bacteriological symptoms of the disease. There were at the same time other cases of tonsillitis(?) from which, as no membrane was found present in them, cultures were not taken. The whole institution was given immunizing doses of

antitoxine and the disease was eradicated.

The so-called cases of tonsillitis were not isolated but had received the antitoxine. In about one month—just about long enough to allow the immunizing effect of antitoxine to wear off—another outbreak occurred and out of 40 cases in which the germ was found, 17 showed clinical symptoms. All were isolated and given antitoxine. As the bacilli disappeared from their throats, they were discharged from quarantine and further cases have not occurred. Had all the throats been examined bacteriologically in the first place and all cases kept isolated until the disappearance of the Klebs-Loeffler bacilli the second epidemic would not have occurred.

As regards the curative effect of antitoxine he was surprised to find so much opposition to it in this society.

Even more convincing figures than had been quoted by Dr. Kober are shown farther on in the article from which he quotes—a paper presented by me before the Medical and Surgical Soc., Feb., 1898. The latest statistics at that ttme in this city, show the following :

Of 422 cases of diphtheria reported, 211 received antitoxine 190 did not, and in 21 cases the method of treatment is unknown.

Among the antitoxine cases, only 8 died—a death rate of 3.8 per cent : while of those not so treated, 65 succumbed —a mortality of 34.2 per cent. which was the average rate for the 10 yrs. preceding the use of antitoxine. As it might be interesting to observe how the death rate dropped after the advent of antitoxine the following is submitted ; the figures speak for themselves. He thought it criminal for one now to withhold antitoxine in the treatment of diphtheria.

Year.	Cases	Deaths.	Per cent of mortality.
1890	397	137	34.6
1891	475	164	54.5
1892	553	182	32.9
1893	377	128	33.9
1894	422	172	40.7
1895*	418	124	29.6
1896	326	76	23.3
1897	620	110	17.7
1898	700	131	18.7

*Antitoxine began to be used.

Dr. CHAPPELL said that in his opinion, Dr. Adams deserved great credit for his painstaking investigation. It showed courage on his part, and undoubted faith in antitoxine. Dr. Adams did not claim so much as some of the speakers seemed to infer. He was very fair in his statements. He did not think though that Dr. Adams would be justified in making similar investigations under similar conditions.

One thing the inoculations proved was that 250 units will not protect a child of 7 years more than 20 days. He had hoped for a longer period of immunity. Did not think the conclusions drawn as to the average duration of immunity of any value. To arrive at an average time of immunity, all the patients inoculated should have been considered, and not simply those who developed diphtheria. A comparison also should have been made with the children in the surgical ward—who did not receive antitoxin. However on account of the varying conditions, and different degrees of exposure, etc., he did not believe it possible to arrive at an average duration of immunity in this way. The only conclusive method would be by direct inoculations. This had been done with animals, but he knew of no such experiments upon the human subject.

He had used antitoxine as an immunizing agent in a few cases, and diphtheria had not developed. He would not, however, recommend it except in exposure to a very malignant form of infection, or where the patient could not be isolated. As regards untoward after-effects, he had seen severe joint pain in 2 cases which lasted 24 hours or more, accompanied by a scarlatinal form of eruption.

In his opinion, the most valuable information obtained by the exeriments was that which showed that antitoxine did not produce evil effects in those suffering from other diseases. He would have hesitancy in using the remedy in such cases.

He asked Dr. Kinyoun if he had anything to offer in explanation of the

phenomenon that after antitoxine is given, the membrane rapidly disintegrates and soon disappears and, the symptoms abate—yet the germs remain in the throat as long as 2 or 3 months. He also would like to know if any experiments had been made to determine whether the remaining germs were capable of producing the disease in others—say several weeks after the use of antitoxine. Of course he was aware of the clinical fact that persons apparently well of the disease had seemingly transmitted it to others.

Dr. WARD said that no one had here spoken against the value of antitoxine—the trouble was that Dr. Adams had put up antitoxine against the field. Bichloride of mercury was a most valuable remedy in diphtheria, but he would not care to set it up against the value of all other remedies. Under its use he had seen but 7 deaths in 26 years practice. It acts directly to kill the germ itself.

Dr. MOTTER, reading from an editorial in the Jour. Am. Med. Assoc. quoted the "experience of Allan, how in an institution accommodating 60 children a threatened epidemic was averted by timely immunizing injections. It appears that one of the children, while visiting a friend, was exposed to infection with diphtheria, and on returning home, developed the disease and transmitted it to the girls in the beds on each side of her own. These 3 children were removed to a hospital, and no farther cases appeared until their return several weeks later, when 5 children in the same dormitory were attacked. On bacteriologic examination, diphtheria bacilli were found in the throats of 2 of the earlier patients. During the following month, several other children developed the clinical symptoms of diphtheria, and several more had sore throats without membrane. At this time a protective dose of antitoxine was given to all of the children, and from now on, although diphtheria bacilli persisted in the throats, there were no more cases of diphtheria or of sore throat."

The discussion having turned to a larger question of immunity in general, Dr. Motter reviewed briefly the latest views on the subject, as set forth by Lazarus-Barlow—Manual of Gen'l Pathology, Blakiston, Phila., 1898.

Immunity must be considered in 3 varieties: Natural, Acquired and Inherited. Preventive medicine is, naturally, most concerned with the 2nd. variety. Acquired immunity is of two distinct kinds: active, and passive.

Active immunity may be obtained in at least 5 ways:

1. By a previous attack of the disease.
2. By inoculation with attenuated micro-organisms.
3. By inoculation with small doses of virulent micro-organisms.
4. By the injection of the sterilized products of bacterial growth—the method of Salmon and Smith.
5. By feeding an animal with toxin.

So much for acquired immunity of the so-called active type. This is largely the field of the bio-chemist, and the comparative pathologist: here we have the practical work in which the Bureau of animal Industry of our Agricultural Department has become famous. It is, however, with acquired immunity of the passive type that we, as general practitioners are most imtimately concerned. "It was found by many observers, among whom Behring stands preeminent, that when an animal has, by any of the methods described, been immunized against a given infective agent, the blood serum of that animal injected into other animals can confer upon them also an immunity against the same infective agent. This statement may be regarded as a general law, the truth of which is firmly established, having been demonstrated in case of rabies, tetanus, diphtheria, pneumonia, and other diseases. Erlich has also succeeded in immunizing animals actively against ricin—castor-oil bean—and abrin—jequirity—and other animals by the serum of these. Calmette, whose work has been confirmed by Frazer, has recently shown that the same holds good with reference to animals immunized by successive small doses against snake venom.

Passive and active immunity show important differences. In particular, pas-

Therapeutic Notes.

Lacto-Somatose.

Lacto-somatose is now generally considered as a prominent food and restorative in the treatment of gastro-intestinal diseases attended with marked exhaustion due to the drain of fluids from the system and the marked impairment of the digestive functions. Hence, a few remarks as to the manner of conveniently preparing solutions might not be out of place. The simplest way of dissolving the preparation is to place the desired dose upon the surface of about one-quarter glassful of hot water and allow it to dissolve without stirring. This will require about 10 to 15 minutes, when a clear solution of agreeable taste and appearance is obtained, which may be drank in its own form or mixed with ordinary fluids, such as milk, soups, gruels, etc. Another simple means of dissolving lacto-somatose is to sprinkle it upon hot milk or broths with a dry, wire sieve. A still other method is to stir it into a smooth paste with a little water before adding the remainder of the solvent, but this may be conveniently replaced by the above methods.

Medicinal Treatment of Tuberculosis.

The study of infectious disease received a new impetus and was placed upon a new basis when the agency of bacteria in its production was discovered.

As long as, by any and every means, general nutrition can be maintained at the normal standard there is little to be feared from the presence of pathogenic bacteria. If, however, the general vitality be reduced by any cause, our diminutive foes can then not only enter, but can contaminate the system.

Accordingly, skillfully prepared and reliable preparations like those of The Maltine Company, have long been favorably known to and beneficially employed by physicians in the large class of morbid conditions in which they are indicated. Several active remedies or combination of remedies have from time to time been added to the plain Maltine in order to adapt it to a wider field of usefulness. The latest of these excellent additions to a worthy line of products is Maltine with Creosote.

In the purely medicinal, as distinguished from the climatic treatment of tuberculosis, creosote has approved itself as a remedy of the first rank. It undoubtedly possesses a considerable inhibitory influence over the development of the bacillus tuberculosis. It relieves the prominent symptoms of phthisis more effectually than any other remedy. Creosote is often able to hold this destructive malady in abeyance for an indefinite period or practically cure the disease. Therefore a combination of Maltine with Creosote appeals most powerfully to the medical profession. So much of the physician's work has to do with tuberculosis in its varied manifestations and localizations that a warm welcome will doubtless be extended to this new preparation. Its nutrient and antiseptic properties render it admirably adapted to fulfill many important indications. We are assured that the creosote contained in this preparation is perfectly pure, and we have learned by painful experience that there is a vast difference between pure and impure creosote. Each fluid ounce of Maltine with Creosote contains 4 minims of pure creosote. Creosote is an efficient remedy in many morbid conditions of the intestinal tract, and this new combination will, consequently, be found of service in many cases of chronic indigestion. *The Monthly Cyclopædia of Practical Medicine*, Philadelphia, June, 1899.

The Treatment of Painful Cystitis.

Albarran (*Annales des Maladies des Organes Genito-Urinaires*, February, 1899), following Guyon, characterizes under the heading of painful cystitis a number of affections of different etiology, characterized by their severity of pain, their chronicity, and their persistence in spite of treatment. Because of increased facilities afforded by modern medicine in the examination of the bladder, these painful cystites (at least a

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Doctor :

How is that case of scrofula getting along? About the same old way as it has for years, is it not?

You see by this time that the alterative and general tonics give but temporary benefit. Sometimes, in fact, they irritate and aggravate the case.

Did you ever think what is the real pathology of scrofula?

It is deficiency or degeneration of the tissue walls. This allows extravasations of blood, and diapedesis of corpuscles, forming eruptions and suppuration. It is not "bad blood," but bad tissues.

Notice that rickety building over there. It is crumbling while those near it, much older, are still strong. What is the matter? Bad brick and mortar in its walls. It can be stayed awhile with props, but soon the radical change must come of tearing it down and building it over with good material.

Now, Doctor, your scrofulous patient is in the same condition, with this difference: Nature is constantly removing the old material in his tissue walls, and replacing it with new. In seven years, without any cessation in his existence, he will be composed of entirely new material. This gives you a golden opportunity to put in some extra good material.

What shall it be?

Shall it be iron, quinine, strychnine, arsenic and manganese? No. They only prove to be irritants. The only remedy is hypophosphites of lime and soda—the true reconstructives of the tissues. By using them faithfully and constantly you will gain gradual improvement at once and permanent cure in a few years.

You see the philosophy of it, don't you?

The only chemically pure preparation of these tissue foods is McArthur's Compound Syrup of the Hypophosphites of Lime and Soda. All others contain, in addition, the irritant "tonics," so delusive in their results. Be sure that your patients are served with none other than McArthur's. You can add to it in the prescription any other remedy specially indicated at special times.

Other diseases particularly requiring this remedy are Tuberculosis (twin brother of Scrofula), Rachitis, Chronic Cough, Chronic Bronchitis and Throat Affections, Chronic Alcoholism, Impotence, Nervousness, General Debility, Brain Exhaustion, Loss of Memory, Chronic or Wasting Diarrhœa, Suppurating Discharges and Sores, Uterine Fibroids, and all diseases characterized by waste or faulty nutrition.

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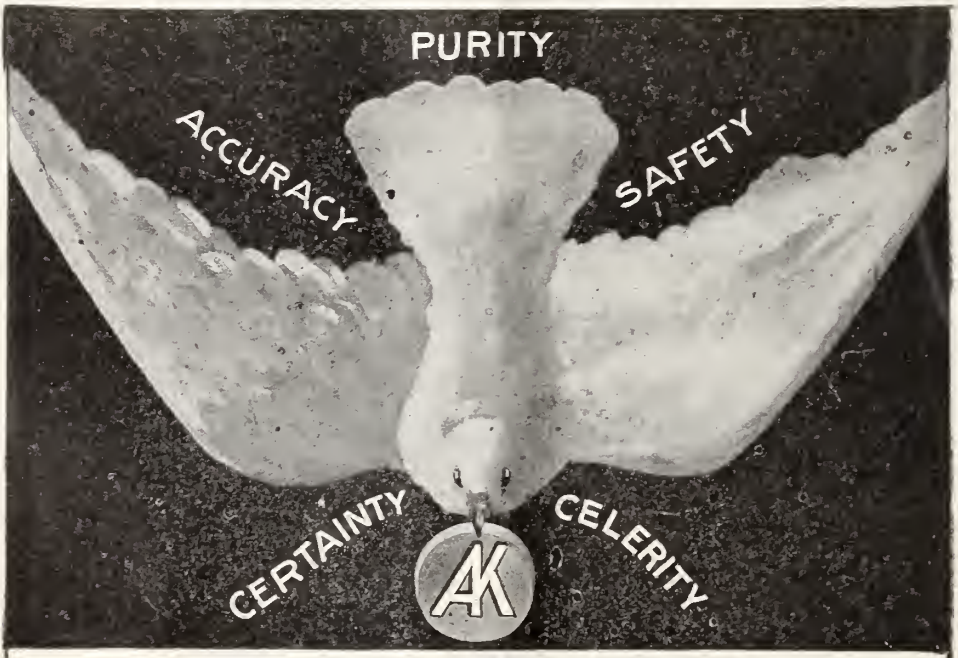

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That Blood is such a power as here described, is an undisputed physiological fact. Its transmission from one animated organism to another, for the purpose of supplying a defect in the latter, is the substance of the Blood Treatment; and How to Do this, in different cases, is the form or description of the same. Blood may be taken from a healthy bullock (arterial blood—elaborated with due scientific skill); or it may be obtained in the well-attested living conserve known as bovinine, from any druggist; and may be introduced into the veins of the patient in either of four ways, that may be most suitable to the case. viz.: by the mouth and stomach; by injection, with one-third salt water, high up in the rectum; by hypodermical injection; or by topical application to any accessible lesion.

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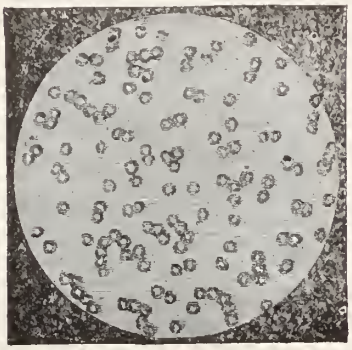

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great majority of them) have had additional light thrown upon them.

Cystitis due to foreign bodies or calculus, neoplastic cystitis or tuberculous cystitis, are not included in this classification, although they are extremely painful, are chronic, and resist treatment.

It occasionally happens, for reasons quite unrecognized, that an attack of cystitis acquires an extraordinary intensity and obstinately resists treatment. The cause of this cystitis is often a very ordinary one. It may be gonorrhea, or the passage of the catheter, or a vesical infection secondary to grippe. The ordinary microorganisms are the colon bacilli, staphylococcus, the proteus of Heuser, the streptococcus or gonococcus. One or several of these microbes will be found.

The lesions of these painful cystites are usually deep, attacking the submucous layers or even the musculature of the bladder, often even reaching the perivesical tissues. It is very rare in these chronic painful cases to find the lesion purely superficial. The position of the lesions is especially characteristic, since this is always at or near the neck of the bladder. The lesions observed through the cystoscope are usually those common to severe cystitis. Occasionally vegetating cystitis is noted, or even ulcers or leucoplacia. Sometimes one or more ulcers are found on an apparently almost healthy mucous membrane. Pseudomembrane is by no means uncommon. The diagnosis of the anatomical condition is often extremely difficult. Often it is quite impossible to use the cystoscope.

The most serviceable treatment to begin with is that by instillation, either with silver nitrate or weak bichloride lotion or guaiacol oil. The patient should then be given a warm bath, after which one-half to one drachm of a two-per-cent solution of cocaine should be injected, so that it passes over the trigonum and the neck of the bladder. This is allowed to remain in the bladder for five minutes, after which a lotion of boric acid or antipyrin, at blood heat, is gently injected, when the cystoscope may be used. When this local anesthesia is impossible, because of the intense sensitiveness of the bladder, a general anesthetic should be given. This cystoscopic examination should immediately precede an operation, which is nearly always required. Renal infection very commonly accompanies these cases of painful cystitis, a fact which must be borne in mind in directing treatment.

The instillation with which the conservative treatment always begins should be no larger than thirty drops at the most, and of a one- to a five-per-cent solution of silver nitrate. When the bladder is fairly retentive one-half drachm to a drachm of 1-to-5000 sublimate solution may be used. Silver nitrate is usually the most useful application. Before these instillations the bladder should be entirely emptied; since painful cystitis is usually complicated by some degree of retention the complete emptying is usually accomplished only by means of a catheter.

Usually this local conservative treatment fails, in which case surgical treatment is indicated. Curettage of the bladder is a simple procedure, giving excellent results in some cases. It is most applicable in women, since it can be practiced through the urethra. In men the preliminary perineal operation is necessary. This curettage is especially serviceable when the lesions are limited to the region of the neck of the bladder. It should always be followed by careful after-treatment, and will succeed in uncomplicated cases Dilatation of the cervical neck is usually unsuccessful. Fistulization of the bladder is one of the most valuable therapeutic resources; the pain ceases promptly, and the deepest lesions get well when the drainage is sufficiently long continued. In woman this fistulization is made into the vagina; in man the opening should be suprapubic. It allows the surgeon at the time of operation to explore the bladder thoroughly, and to curette or apply the thermocautery, in case these remedies are needed. After drainage the bladder should be thoroughly washed and treated, and the opening closed when the inflammation is cured.—*Therap. Gaz.*

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The Treatment of Headache by Internal Use of Hot Air.

Vansant reports several cases of headache which he has relieved by forcible syringing of the nasal accessory sinuses with a stream of hot dry air. In many of the cases the headache was in the frontal region, and suggested the frontal sinus as its source, but this was not always the case. Even headaches of some years' standing, and where the sinuses were not suspected, were relieved either immediately and entirely, or improved. He accounts for it by supposing that the condition causing many headaches consists in the blocking and stoppage of the outlets of the sinuses, especially the ethmoid cells and frontal sinus, with the retention of fluid or gases, or else an absorption of air and consequent vacuum, as is observed in the middle ear. He has employed for this purpose hot air, sometimes medicated, and also oxide, but he does not describe his technique. *Louisville Medical Monthly.*

Chrysarobin for Warts.

Dr. G. W. Fitz (*Boston Medical and Surgical Journal*, June 29th) treated a wart on the plantar aspect of the foot with salicylic acid in collodion for three weeks without effect. He was then led from its superficial resemblance to the lesion of psoriasis, viz., bleeding points, to try a solution of chrysarobin in gutta percha. The wart was thoroughly pared to profuse bleeding and the solution applied to the denuded surface. The patient was directed to cut the surface every night and apply the chrysarobin. In a few days the pain disappeared and the wart seemed diminished in size. In two weeks' time the wart was practically gone and the surface restored to its normal condition.

Since that time Dr. Fitz has applied chrysarobin in eight cases of warts similarly located which had been treated for months by salicylic acid without success. In most cases the chrysarobin produced little effect before the end of the first week, except that the pain became less and the wart did not increase; in the second week change was rapid in most of the cases, although in a few cases there was still little effect. In the third week the majority were cured. In the series of eight cases there have been no failures. Two apparent failures were traced to difficulty in paring the wart, and so soon as this was remedied by sandpapering the cure progressed favorably. Careful thinning of the surface with a sharp, fine glass-paper gives better results than paring with a knife, as the patient is less afraid of injuring himself and can more conveniently handle the paper. Chrysarobin may be applied either in a ten-per-cent. solution of the ordinary gutta-percha solution or in a ten-per cent. ether solution at night, and the patient should put on an old stocking, to prevent soiling the bed clothing. Application once a day in this way seems ordinarily to be sufficient, but in obstinate cases it should be applied both night and morning. Chrysarobin seems to act not only upon the keratinized portion of the skin, but but also upon the proliferated blood-vessels in the papillary central part, for both disappear and true skin is formed over the surface. No scab is thrown off, but a considerable thickness of the surface is removed in each case by cutting and sandpapering. In one case of warts on the hand it had the same favorable effect. Experiments with chrysarobin on corns show that it has practically no effect upon them. *N. Y. Med. J.*

Preservation of Solutions of Cocain.

Jonas of Brussels has experimented with solutions of cocain in distilled water, with and without the addition of various preservative agents, such as boric acid, glycerin, carbolic acid, etc., in different strengths. He finds the following solutions to remain permanently clear and unchanged:

1. Cocain hydrochlor., gr. iv.
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Med. News.

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Sight-Seer's Headache.

There are, no doubt, very many important uses for antikamnia, of which physicians as a rule may be uninformed. A five grain antikamnia tablet prescribed for patients before starting on an outing, and this includes tourists, picnickers, bicyclers, and in fact, anybody who is out in the sun and air all day, will entirely prevent that demoralizing headache which frequently mars the pleasure of such an occasion. This applies equally to women on shopping tours, and especially to those who invariably come home cross and out of sorts, with a wretched "sight-seer's headache." The nervous headache and irritable condition of the busy business man is prevented by the timely use of a ten grain dose. Every bicycle rider, after a hard run, should take two five grain tablets on going to bed. In the morning he will awake minus the usual muscular pains, aches and soreness. As a cure and preventive of the pains peculiar to women at time of period, antikamnia is unequaled and unaccompanied by habit or unpleasant after-effect. If the pain is over the lower border of the liver, or lower part of the stomach, or in short, be it headache, side-ache, backache, or pain of any other description caused by suppressed or irregular menstruation, it will yield to two five grain tablets. This dose may be repeated in an hour or two, if needed.

Irrigation of the Bowel in Summer Diarrhea.

So valuable do we believe this method of treatment to be, particularly in the case of children suffering from the condition called cholera infantum, that we may be permitted to reiterate our views concerning it in this issue of the the *Gazette*, although we are well aware that we have called attention to it editorially in previous years.

In obstinate cases, two individual things should be done for the relief of the child, namely, the use of irrigation of the large bowel by plain water, normal saline solution, or water containing a small amount of boracic acid; and second, and even more important, the use of milk should be stopped for a period of twenty-four or thirty-six hours, and it should be supplanted by the use of beef juice and water to allay thirst, to provide albuminoids, and yet at the same time to arrest the fermentation processes which are going on in the alimentary canal, and which are represented by the curds of milk which are found undigested in the stools which are passed.

Our attention is once more called to this matter by an article by Dr. Hubbard, of Boston, in the April number of the *Archives of Pediatrics*. The temperature of the solution which he employed varied from 89° to 90°. The child was placed in the lithotomy position; the catheter, free from air and full of the irrigating fluid, was gently inserted into the bowel as high as possible, and the syringe held about two feet above the baby.

Ordinarily about one quart of liquid may be used, and if there seems to be any tendency to its retention, an escape tube can be inserted alongside of the entrance tube. By this means the bowel is cleansed, the temperature is lowered, the blood is sent from the congested colon to the peripheral portions of the body, and great benefit results to the child, for often a peristaltic wave is set up which cleanses the bowel even above that portion of it which is reached by the injection.

Dr. Hubbard points out that seven out of ten babies which received this method of treatment had no rise of temperature the next morning, and of fifty-two other cases not so irrigated, fifty-nine per cent had a temperature. So far as we know there are no contra-indications to the employment of this method of treatment, provided a fountain syringe is held sufficiently low to produce a gentle flow of liquid into the bowel, and not high enough to produce too much hydrostatic pressure, which, if it is slightly excessive, may cause griping, and if it is very excessive may cause damage.—*Therap. Gaz.*

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Surgical Shock.

The discussion is still going on as to the real pathology of the condition known as surgical shock, and many recent investigators have performed many experiments on animals in order to throw light on this question. Boise thinks that all the symptoms of shock can be satisfactorily explained by considering it not a paresis of the sympathetic system or a paresis of the splanchnics, or of the cardiac and respiratory ganglia, or of the circulatory system, as did the older theorists, but simply that it is a hyperirritation of the entire sympathetic system and that as a result of this condition we have stimulation of the vaso-motors, contraction of the arterioles, and a spasmodic action of the heart. This writer contends that amyl nitrite, nitroglycerine, morphine and moist heat produce favorable results in this condition because they are sedatives to the sympathetic system and relaxants of the arterioles.

Crile has experimented to ascertain the effect on the blood-pressure of manipulation and irritation of the various organs and tissues of the body, and he favors the treatment of surgical shock by intravenous injections of warm saline solutions along with a dilute solution of strychnine slowly injected into the rubber tube of the infusion apparatus, thus entering the circulation directly in the stream, instead of injecting the dose directly into the patient.

Whiteford says, that shock by no means satisfactorily accounts for the collapse which may follow the simplest laparotomy, and he regards the loss of fluid resulting in failure of the circulation as the prime factor. To correct this he would fill the peritoneum with hot sterilized salt solution and give stimulants, in the form of brandy and strychnine well diluted, by intravenous injection.

Witherill regards surgical shock with or without hemorrhage, as primarily conservative in its tendencies. The incident prevention of rapid exhaustion, of acute suffering, or great blood-loss when the vessels are opened, all tend to the ultimate saving of life, and that therefore, premature stimulation in the treatment of traumatic asthenia may defeat this conservative effort of nature. Bleeding should be stopped and proper provision made for the comfort and welfare of the patient before strong stimulation is resorted to, unless there is imminent danger of death. *Journal of Medicine and Science.*

Hay Asthma.

The asthma of hay-fever is often intense and demands measures for its relief apart from what may be done for the constitutional condition. A combination which has served this purpose most efficiently in a large number of cases is the following which was originally advised by Mays:

R. Phenacetin, gr. lxiv.
Quinin sulph., gr. xxii.
Ammonium chlorid., gr. xc.
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W. A. Forster, M. D.,
Kansas City, Mo.

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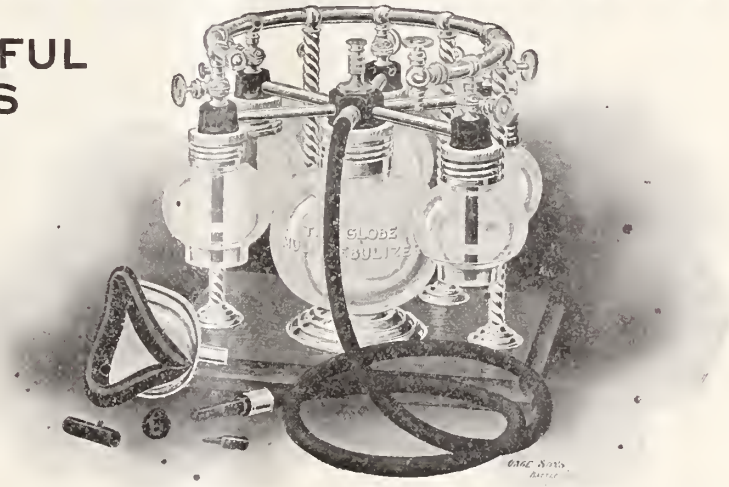

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Treatment of Nocturnal Incontinence of Urine.

Phillips (*British Medical Journal*, May 27, 1899) states that he has found antipyrin the most satisfactory drug for general use in functional incontinence of urine in children. It soon gives obvious good effects, often in striking contrast to the doubtful results from such drugs as belladonna, pichi and rhus aromatica. He gives one nightly dose of 8 or 10 grains for a boy 7 years old, and gradually increases this amount. He has continued to do this for a period of 4 months without producing an exanthem or other bad symptom. When the habit appears to be broken or modified a course of arsenic may be added, pushing it if well borne. Of course, any reflex cause must be removed, phimosis, oxyurides, etc. Scolding children, or even appearing to unkindly blame them for this trouble, has a most evil effect on their buoyancy of temperament and character. *Phila. Med. J.*

Pastilles for Fœtor of the Breath.

This formula is given in the *Journal de Medecine de Paris* for January 15:

Powdered coffee, 45 parts.
Vegetable charcoal, 15 parts.
Powdered sugar, 15 parts.
Vanilla, 15 parts.
Mucilage of gum arabic, a sufficiency.

M. Divide into pastilles of fifteen grains each. Five or six to be chewed daily. *Gaillard's Med. J.*

Ichthyol in the Treatment of Anal Fissure.

Conitzer (*Munchener medicinesche Wochenschrift*, Nov. 3, 1899) holds that ichthyol is particularly serviceable in the treatment of anal fissure. The applications are repeated twice daily at first, cocaine being employed to diminish the pain. The pure preparation is used towards the end of treatment. A cure results in a few days. *Therap. Gaz.*

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THE

NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., AUGUST, 1899. No. 3.

Original Articles.

VESICAL CALCULUS IN CHILDREN: A CASE OF SUPRA-PUBIC CYSTOTOMY.

BY J. FORD THOMPSON, M. D.,
Washington, D. C.

Vesical calculus in children is a rather rare affection in the region of Washington, but since occasionally we meet with such cases and since the subject is always an interesting one, I shall briefly report a case recently operated on.

The selection of the best method of surgical interference at the present time is by no means easy ; much less so than formerly, when the rule was to perform perineal lithotomy, median or lateral, in all cases, except for large stones, when the supra-pubic method was chosen. The older surgeons had brought the perineal operations almost to perfection, and, in children, they were so successful and apparently so satisfactory, that scarcely anything was left to be desired in this respect, as the mortality had been reduced to about two per cent or a fraction over.

But for the introduction of the operation of litholopaxy there would probably have been little change in operative methods. This operation was soon brought to such perfection that it was almost universally considered the one of choice, and, in the hands of a skilled operator the mortality was brought even lower than by the perineal route, without its inconvenience and, sometimes, disagreeable results other than death. For small or medium sized stones, even in young children, it is practicable and well borne, but it is my belief that it will long remain restricted in its use, from the fact that its proper performance requires more skill and dexterity in the instrumentation than is usually possessed by the general surgeon.

Statistics appear to show very clearly that there is little to account for the favor in which the supra-pubic operation is held at the present time or to justify its so frequent performance in children, the mortality being at least as high as 12 per cent. If it be true, as is claimed, that the perineal route, especially the lateral for rather large stones, is followed in a certain per centum of cases by disturbance or loss of function, (even emasculation is said to have resulted a number of times) there would of course be some reason for the above preference ; but whether these untoward results occur sufficiently often to justify the greatly increased risk of the operation, is a debatable question. For hard, large

stones there is no diversity of opinion, all recognizing the advantages of the supra-pubic method. In the following case the size of the stone was pretty accurately determined by bi-manual manipulation with one finger in the rectum, and it was thought too large for safe operation in any other way. The technique was very simple and the operation rapidly performed. No rectal bag was employed. The bladder was washed out and then filled with a little over two ounces of boracic fluid, all it would hold; the patient put in the Trendelenburg position and the incision made in the usual way. When the bladder was exposed, it was transfixed with two sharp hooks, one on either side of the median line and opened. The stone was at once felt by the finger, grasped by forceps and extracted after enlarging the wound in the bladder downwards, as it was found too small for delivery. No attempt was made to suture the bladder wound, nor was it fastened to the parietal fascia. A drainage tube was inserted and left in position for only twenty-four hours, after which the wound was dressed with gauze in sufficient quantity to take up the urine. I doubt very much the propriety of doing the "ideal" operation as it is called, of sewing up the bladder wound securely by the Lembert stitch. In the first place it is difficult to do satisfactorily and secondly it requires the use of the catheter, either interruptedly or à demeure or a perineal puncture for drainage, all of which appear objectionable and probably increase the danger of the operation. The only sutures used in this case were two in the upper half of the abdominal wound.

I would state that I have twice seen phosphatic calculi form in the bladder after supra-pubic cystotomy, with a knot of silk as their nucleus.

Case; T. P., male, aged 5 years. Was circumcised last summer for adherent prepuce and difficulty in voiding urine. Micturition was also painful. Circumcision did not seem to effect this condition; voided urine frequently in small quantities and with difficulty and pain. Stream would at times be suddenly interrupted. He pulls at glans penis during time when not voiding water as if it pained him. Has passed small amount of blood. General health good.

May 3, 1899.—Examination of urine shows only mucus and a few pus cells with uric acid and calcium oxalate. Examination of bladder under anesthetic reveals stone.

June 6.—Operation attempted. Child collapsed under chloroform and was with difficulty resuscitated. Operation postponed. Examination of urine before and after operation showed only some mucus and a few pus cells, with uric acid and calcium oxalate crystals.

June 7.—Temperature 104.2; does not complain of any pain. Examination of urine showed mucus, pus and calcium oxalate and uric acid but in smaller amounts.

June 23.—Temperature gradually declined. Examination of urine at different intervals showed nothing but what was found at first; mucus, pus uric acid and calcium oxalate. Placed under ether anesthesia; collapsed, but was resuscitated easily and operation of supra-pubic cystotomy done and stone removed. Bladder wound not sutured; drainage tube for 24 hours.

June 25.—Voids small amount urine, via urethra. June 30.—Incision closing and patient doing nicely. July 5. In-

cision closed. July 10. Sits up in bed.

July 25.—Patient retains urine at night, from 8 p. m., to 2 a. m. General health good; suffers no pain.

June 7.—The day after the attempts to operate, the temperature reached 104, but remained high only a short time, being normal about the end of the week. The same elevation occurred June 24th the day after operation, but was normal in a week.

Uric acid stone: weight 180 grains; length 3 cm.; width 2.3 cm.; thickness 2 cm.

A CASE OF SUPPURATIVE INFLAMMATION OF THE FEMALE PELVIC AND ABDOMINAL CELLULAR TISSUE.

By J. Wesley Bovée, M. D.,
Washington, D. C.

The pathology of inflammations of the female pelvic structures has had certainly its share of the revolutions of medicine. Previous to the appearance of the well known paper of Bernutz and Goupil, about 35 years ago, practically all cases of inflammatory disease of the ovaries and Fallopian tubes as well as of well-marked pelvic peritonitis, were considered pelvic cellulitis, either acute or chronic, according to the duration and degree of enlargement of the organs. A tube largely distended with pus or greatly hypertrophied by infiltration of some duration was a typical pelvic cellulitis. This kind of pathology, I am sorry to state, was much in existence even as late as fifteen years ago, and still exists to a slight extent among a few who retain only the ancient teachings.

On the other hand we have to hang out the danger signals against those, who, even of high authority, are prone to be dictatorial, to make pathology to suit their wishes or to ignore it completely. These are occasionally heard from as decrying the old pathology and stating most positively no such thing as pelvic cellulitis and abscess in the pelvic cellular tissue ever existed—that all such pelvic lesions are of the tubes and ovaries. They cannot realize or are unwilling to admit, infection may be spread from the uterus or the vagina by routes other than the continuity of the mucosa. They can see no function for the lymphatics of the pelvic cellular tissue.

So that we find we must steer between these, the Scylla and Charybdis of pelvic pathology, in order to have the true course. I am ready to admit the latter class are correct in fully 90 per cent. of the cases as we find them, but why ride a hobby that prevents correct diagnosis and treatment in 10 per cent. or less. Noble has reported a number of cases of abscess of the pelvic cellular tissue, in one paper mentioning six cases and some other writers have recorded a few. It is only to again call attention to the existence of this small proportion of cases, notwithstanding the denials of some, that this short paper is written and an interesting case history appended as an illustration.

The infections following abortion and labor almost always travel by the lymphatics and veins of the broad ligament. The suppurative peritonitis so often seen in puerperal sepsis very rarely indeed passes through the Fallopian tube from the uterus.

The case history is as follows:—

Mrs. M——, white, about 30 years of age, was seen in consultation with Dr. R. T. Holden, December 9, 1896. He in-

formed me she had had an induced abortion about six weeks before, and having had trouble some days later, sent for him. He found her with a high fever and a foul uterine discharge for which curettage was done two weeks after the abortion. Fever and chills ensued ; she remained in bed and rapidly emaciated. Upon examination I found a mass in the pelvis surrounding and fixing the uterus but no evidence of pus within it. On the right side, extending from the kidney to the iliac crest, was a large painful mass that was thought to be an abscess. The fever, pain and fluctuating tumor aroused the suspicion of pyonephrosis and a urinalysis revealed an abundance of pus in the urine. I again saw her December 14, when she had no fever, her general condition and pulse had markedly improved, and an operation was postponed until her condition improved more. On the 20th, I was urgently called when Dr. Holden stated she had been doing badly since the 16th, She had had chills, fever, sweats, nausea, vomiting, loss of appetite, great pain and exhaustion. Her temperature was 103° and pulse 140; operation seemed imperative and we did it next day at Providence Hospital. I opened through the loin into an abscess that extended from the right iliac fossa to the posterior surface of the kidney and extraperitoneally across the abdomen nearly to the sigmoid. The kidney was found to be practically normal and was not disturbed.

From the odor of the pus it was thought to be a pericecal abscess and was washed out and lightly filled with iodoform gauze. Two silk worm gut stitches were inserted ; time 14 minutes; anaesthetic, chloroform. The urine had the same fecal odor as the pus evacuated. The temperature dropped to normal, the chills and sweats ceased and the appetite improved rapidly, but the discharge continued free, requiring daily redressings.

December 29, bowels moved naturally, the urine has improved in odor but contains hyaline casts. Early in January I opened through the bottom of the abscess cavity in front of the broad ligament, into the vagina with a probe and dilated the opening with spreading forceps, after which a rubber drainage tube was inserted. Pus was now found on both sides of the uterus and evacuated. She made a complete recovery a few weeks later.

This was plainly a case of post abortion infection that spread laterally on both sides of the uterus, dissecting to the right perirenal tissues and thence across the abdomen in front of the peritoneum. Evidently it never invaded the peritoneum. The pus in the urine was due to migration through into the kidney, ureter or bladder as it disappeared rapidly with drainage of the pus cavity. The fecal odor so often found in collections of pus in proximity to the lower bowel occasionally misleads us to the opinion that the abscess has a direct connection with the bowel contents when such connection is usually not present. In this case the urine had the same fecal odor previous to and a few days after operation.

THE NATIONAL MEDICAL REVIEW,

EDITED BY

GEORGE W. JOHNSTON, M. D., and THOMAS E. MCARDLE, M. D.,

AND

THE MILITARY SURGEON,

A SUPPLEMENT.

OFFICE: 1408 Twenty-first Street, N. W.

WASHINGTON, D. C., AUGUST, 1899.

Editorial.

THE MEDICAL SOCIETY: AN INCREASE IN ITS USEFULNESS.

Washington has many hospitals and much clinical and pathological material, and the question has suggested itself whether this material cannot be made of more use to the Medical Society of the District of Columbia as a body and to those members of it who have no hospital connections.

Hospital reports are, as a rule, unsatisfactory. They contain lists of officers, the number of patients treated, a record of donations and a financial statement, but nothing of the actual medical and surgical work done, from which anything is to be learned. And yet hospitals are the great teachers and should be utilized for the instruction of the whole profession.

Associated with our various hospitals are many able clinicians and pathologists, and, in some instances, well appointed laboratories for clinical and pathological research. It is true that cases of disease and pathological specimens are frequently presented to the Society by some member connected with a hospital; but it would seem as if there should be more of them and as if the cases should be more thoroughly worked out. For example, there have been numbers of so-called pus tubes exhibited, with a brief history of the patient, an account of the technique of the operation and a statement of its result. But rarely if ever has an examination been previously made to determine what was in these tubes, what was the etiological factor that produced the diseased state; and, as a consequence, our actual knowledge of pus tubes is confined to the methods employed by different surgeons in their removal.

Careful and complete studies of single cases and the results of collective investigation can be furnished far better from hospitals than from private practice, and would be most highly appreciated by the Society. The specimens or case histories need not represent rare diseased conditions only. The Society has many young members, recent graduates in medicine, to whom it owes a duty, and this duty could be well fulfilled, if cases and morbid specimens were presented, illustrative, not of rare or unusual processes, but of the more common and

ordinary ones with which the young physician is brought in contact, and upon the successful diagnosis and treatment of which his reputation and fortune will depend.

In this connection might it not be well for the Society to have a committee consisting of one or more representatives from each hospital and two pathologists, whose duty it would be, acting in concert, to collect, study thoroughly, and present to that body a part at least of the abundance of material, which, it is to be feared, in so far as the majority of the Society is concerned, is not now satisfactorily utilized.

During the year 1897-98, the Committee on Public Health of the Medical Society, presented two reports, one dealing with the subject of typhoid fever in this city and the other with certain aspects of the malarial fevers. In investigating the prevalence of typhoid fever in different sections, it became necessary for the committee to ask information from a large number of physicians living in different parts of the city, and these requests were sent out in the form of blanks to be filled and returned to the committee by the physicians receiving them. One such blank was sent to every member of the Society and to many other medical men besides; there were perhaps between four and five hundred distributed. Less than fifty replies were received, many from specialists who could give no information; and, as a result this very essential part of the inquiry had to be abandoned. Perhaps this want of success was due to the fact that physicians find no opportunity to keep records of their cases, or perhaps it was owing to a lack of interest on the part of a majority of the members of the Society in the question of public health. If the latter, the fact is to be much deplored. For, although the Society has done a great deal in bringing about reforms in public sanitation, very much more remains to be done, and the education of the public in these matters and the securing of appropriate legislation, are two of the most imperative duties that confront that body.

Certain matters press themselves upon its notice with especial urgency—the housing of the poor and the extinction of the alley tenement, a hot bed of crime and of disease; the whole subject of the prevention or limitation of the spread of tuberculosis—these topics alone should incite the Society to interest and activity. And then again, the influence of our present methods of education upon the health of children, to which attention has recently been called; this question should not be permitted to remain unsolved. It is known that the effects observed in other countries have been disastrous, and that our own methods of education do not differ materially from theirs. No extended, indeed, it might be said, no investigation whatever has been made in America; and the Society has within its power the wonderful opportunity of inaugurating and carrying out the first study yet to be made within our borders of this all important problem.

For the prosecution of these and other inquiries with any hope of comprehensive and satisfactory results, the public health committee, as now constituted, is far too small. The number of its members should be larger, that the work given each to do may not be so great as to trench upon his private business, and that a number of investigations could be simultaneously carried out. But better still, if the Society should

ever be organized into sections, the Section of Public Health would be far better able to carry any study of this character to a successful conclusion than a committee appointed by the President and changing every year. The several committees have done and always will do their duty; but their members in many instances have no special aptitude for the work, and the experience as to the *method* of collective investigation which has been accumulated by one committee, will be lost to the one which in the next year succeeds it. Whereas, those who become members of the section of public health will do so because of their interest in the matter, and in a short time will constitute a trained body of investigators.

Notices and Reviews.

A TEXT-BOOK OF ANATOMY. By American Authors. Edited by Frederick H. Gerrish, M. D., Professor of Anatomy in the Medical School of Maine at Bowdoin College. In one magnificient imperial octavo volume of 915 pages with 950 engravings in black and colors. Cloth, $6.50, net; flexible water-proof binding for the dissecting table, $7.00, net, full leather, $7.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

In medical schools of the most modern type, didactic teaching has been largely replaced by practical work in the laboratory and at the bedside. It has been at last realized that medicine is not an abstraction but a concrete entity; that the way to master its basic principles is not by acquiring them through the medium of a lecture or a book and committing the facts so gathered to a more or less treacherous memory, but by the intelligent use of all the senses.

It is the common experience of medical students that the things seen or heard or felt are the things best remembered. Crepitus ceases to be a name only and becomes a well remembered reality, after the student appreciates it through his own senses; and so it is with most of the things upon which we rely in making a diagnosis of disease or injury.

These facts have long been recognized in the teaching of anatomy, which through many, many years has been the only branch of medicine taught practically. The utter futility of imparting to the student aught of the complex construction of the human body solely, by lectures or printed descriptions, has been realized, and the necessity of dissection is as patent as is that of the telescope in the study of the stars.

To learn anatomy, the student must study the human form as it is, its external aspect, its constituent parts and their relation to each other; and this knowledge can be acquired in the laboratory and dissecting room and nowhere else. But books of the proper kind are a most essential aid—they describe, explain and illustrate what exists, and in them the student finds the data which he daily observes, arranged in an intelligent, connected and logical form. Such books must be simple and direct, as concise as is possible in so vast a study, and should contain only those things which are vital and essential. They must be freely illustrated and these illustrations should be sufficiently diagrammatic to be readily understood, and the constituent parts of a complicated picture must be so represented that they may be identified and recognized at a glance.

The work before us is a model work upon anatomy—a work which reflects the utmost credit upon Dr. Gerrish, his co-laborers, the publishers and every one who had part in its production. The descriptive passages are singularly clear and vivid, the arrangement is excellent, and the book is imbued with a modern and catholic spirit that makes it alive with interest.

It is quite clear that the authors have had a due appreciation of the fact that, while human anatomy is a most interesting study in itself, in its more practical

aspect it is but a stage in the further education of the student, or, rather, a foundation-stone upon which all knowledge of medicine and surgery is based. The construction and configuration of the shoulder-girdle and arm, the origin and insertion of the biceps muscle and the relation of the brachial artery thereto, are of but little interest in themselves except, perhaps, from a mechanical standpoint. But to the surgeon, an intimate acquaintance with all these things is a vital necessity, and he is daily called upon to make practical application of such anatomical knowledge. It is this that makes anatomy, not a dead, but an intensely living study, and the authors of the work under review, as we have just said, have shown great discrimination in emphasizing those portions of the subject which are of the greatest practical utility to the physiologist, the physician and the surgeon, and in omitting, or passing with brief comment, what is only curious or complex.

The illustrations in this book are numberless, instructive and pictorially beautiful. By the free use of color and by the excellent plan of having each part bear its designation conspicuously engraved upon it, the illustrations are made at once easy to comprehend and highly effective.

This work is one which, personally, we highly prize and which we can and do unhesitatingly recommend to students, physicians and surgeons.

ANUAL REPORT OF THE BOARD OF HEALTH. San Francisco. 1898.

We took occasion in these columns last year to commend the good work done by the Board of Health of San Francisco as evidenced by their Report. We are glad to know that the health of such an important city is under the care of men competent and determined to enforce all necessary sanitary regulations. The chemist's report is of special interest. Among many other things, he examined one hundred and nine samples of vinegar of different kinds. Of this total number fifteen samples were found to be as represented, an equivalent of only thirteen per cent. He naively remarks that it seems remarkable that a dearth of pure wine vinegar could be found in California, but the analysis made will seem to bear out such a statement.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA, 1899.

The twenty-ninth annual session of the California Medical Society was held at Monterey in April last. By the first of June the Publication Committee had the Transactions in book form and ready for distribution. We commend this promptness to all other societies for there can be no doubt that the value of Transactions are greatly enhanced when delivered within sixty days from the time of meeting. The volume itself is very creditable to the Society in every way. Many of the papers are of value and furnish conclusive proof that our brethren on the other coast are fully abreast of the times. The paper on Intestinal Anastomosis by Dr. Barbat of San Francisco, together with the discussion which followed, is of very great interest. Dr. Cole of Los Angeles has an excellent paper on Pulmonary Tuberculosis. Dr. McCone's Preliminary Report on Transplantation of the Ovaries is very instructive and we hope the doctor will continue this very interesting study. The Publication Committee prides itself on the book's comparative freedom from typographical errors. Will Dr. Kengla kindly look over the few specimens of Latin and tell us what kind of errors he finds there.

MATERIA MEDICA FOR NURSES. By Emily A. M. Stoney. Philadelphia. W. B. Saunders. 1899. Price, $1.50 net.

Miss Stoney has given to nurses a practical Materia Medica together with an appendix containing a description of poisons and their antidotes, with poison emergencies. She mentions also the various kinds of mineral waters, gives tables of weights and measures, a dose-list, and a glossary of the terms used in Materia Medica and Therapeutics. Miss Stoney has had a thorough experience as nurse, head nurse, and superintendent, and ful-

ly realizes the needs of a nurse in studying materia medica. The author provides us in this volume with a companion, so to speak, to her Practical Points in Nursing, which has been so favorably received.

THE NEWER REMEDIES. By Prof. Virgil Coblentz. Phila. P. Blakiston's Son & Co. 1899. Price $1.00 net.

This is the third edition of a little book which no doctor can afford to be without. In these days of synthetic medication it is absolutely necessary to have such a book constantly at hand. The future of the subject of synthetic compounds appears to be entirely beyond all conjecture. The number of such products furnished the profession during the last three years amounts to about twelve hundred. In addition to giving as complete a list of all modern medicinal synthetics as possible, Prof. Coblentz has endeavored to include all such proprietary combinations as are made up of mixtures containing one or more of these synthetics : also such other preparations as employ specially coined titles, many of which are deceptively similar to those of well-known chemic compounds.

MATERIA MEDICA AND TERAPEUTICS. An introduction to the Rational Treatment of Disease, for the use of Students and Practitioners of Medicine. By J. Mitchell Bruce, M. D., F. R. C. P., etc. Physician and Lecturer on Medicine at Charing Cross Hospital, London. New (6th) edition, revised and enlarged. In one 12 mo. volume of 618 pages. Cloth, $1.50, net. Lea Brothers & Co., Philadelphia and New York. 1899.

The author has made this book chiefly therapeutical in its scope, and it is as he intended it to be, a rational guide to the student and practitioner of medicine in the treatment of disease. At the same time the Materia Medica has not been sacrificed. On the contrary, it will be found to be set forth in detail by the adoption of a natural and concise arrangement, which presents the subject in such a form that it can be quickly appreciated and easily remembered. The author attaches importance to the plan which he has adopted in the description of the special therapeutics, and which consists in systematically tracing the physiological actions and uses of the different drugs in their passage through the body, from their first contact with it locally until they are eliminated in the secretions. In the part of the work devoted to general therapeutics he has further departed from the ordinary arrangement, by discussing the actions and uses of remedies, not under the headings of artificial groups, but of the physiological systems of the body (digestion, respiration, etc.), so as to conduct the student from facts with which he is familiar to the great principles of treatment.

PROGRESSIVE MEDICINE, Vol. II.—A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D. Octavo, handsomely bound in cloth, 472 pages, 56 illustrations and 3 full-page plates. Lea Brothers & Co., Philadelphia and New York.

This volume shows more clearly than even the previous issue that in Progressive Medicine the practitioner possesses a narative statement of the scientific progress of medicine made for him on a plan quite different from any of these heretofore employed. There is the personal element in every page of the book. Given certain subjects, men, who are special authorities therein, have deliberately set themselves the task of forming definite conclusions as to the value of the progress made in each, and have furnished the data for these conclusions, not in useless detail but with sufficiently full statement to make the subjects clear. Such a personal presentation involves mature thought, large experience, and most careful handling on the part of the authors, but it is the ideal method of recording useful knowledge for the prompt service of the busy practitioner. The high literary and scientific standard set by the first volume is amply maintained, and the several sections appeal to the reader by their very practical character. The warm welcome with which the first volume of Progressive Medicine was received is easily understood, and this second volume will surely increase the rapidly growing popularity of this quarterly.

Progress of Medicine.

Some Diagnostic Signs in Children's Diseases.

A. Bienfait gives a few symptoms which have recently been studied, and the presence of which, according to the best authorities are presumptive evidence of the existence of certain infectious diseases.

1. *Koplik's Sign in Measles.* This consists of an exanthem upon the mucous membranes, especially of the cheeks, consisting in small efflorescences of a bluish-white color surrounded by an inflammatory zone. They may be found on the tongue and lips; they vary in number, but there are usually from six to twenty on a side. They never become confluent. They usually appear on the first or second day of the prodromal period, increase up to the time of the eruption, and disappear at the end of three or four days when the skin exanthem is beginning to become pale. They are very characteristic in appearance and have never been found in any affection except measles.

2. *Palmo plantar Sign.* This is found in typhoid fever, and has been studied by Drs. Filipowicz, Achard, and Quentin, the latter having found it in 43 patients. It consists of a yellow coloration of the palms of the hands and soles of the feet, and is especially pronounced at the elevated parts. In the most typical cases the whole palmar surface of hands and fingers is dry, parchment—like, and of a lemon-yellow color, the surface over the head of the metacarpal bones being almost brown and the seat of hyperplasia. The most deeply colored portions of the sole are at the heel, and the head of the first and fifth metatarsal bones. In many cases the signs are more readily found on the hands than on the feet. During convalescence the effected parts are the seats of active desquamation. This sign attains its maximum intensity toward the fifteenth day and then remains stationary. During desquamation, if the superficial layers are lifted up by the nail of a finger, the deeper layers will be seen to be more deeply stained. The discoloration persists long after desquamation has ceased, sometimes as long as fifty days after the onset of the disease. This sign is found in nearly all cases of typhoid fever, but it has also, although rarely, been seen in rheumatism and tuberculosis.

3. *Meyer's Sign in Scarlatina.* This sign was first noticed a year ago in the hospital of the Porte d'Aubervilliers. In the most typical cases there is paresis of the extremities, but usually there is merely a swelling of both hands, with pricking or formication. Even the swelling may be absent, and there may be only a prickling sensation of the palmar surface of the ends of the fingers or in the hollow of the hand. In rare cases this sign is met with in the feet alone, or at the same time as in the hands. It appears during the period of the eruption, exceptionally preceding it. It may last a few minutes only, but as a rule for two or three days with interruptions. Some patients perceive it only when they attempt to use their hands, as in holding a cup; others when they come out of a cold bath or when they dip their hands in water. Meyer has found this sign in 79 out of 100 cases. It has been found only in adults. It may be confounded with the itching due to the eruption, with the swelling of the extremities connected with the eruption, or with stiffness due to scarlatinal rheumatism.

4. *Whooping Cough.* There is an excoriation of the mucosa of the frenum of the tongue which permits us to diagnose this affection in children examined between attacks and who have no further characteristic return of attacks. It is due to the scraping of the lower surface of the tongue against the incisors during coughing.

Am. J. Obst. etc., N. Y., 1899, xl, 139.

The Urine and the Feces in the Dissemination of Typhoid Fever.

P. Horton Smith (*Lancet*, May 20, 1899) says that the conclusions which he

is justified in arriving at with regard to the infectious character of the urine in typhoid fever are as follows: (1) It can no longer be doubted that typhoid bacilli occur in the urine of typhoid patients, probably in about twenty-five per cent of all cases. (2) For the most part, though present in such numbers as to be demonstrated bacteriologically with the greatest ease, they are not present in sufficient quantity to alter the naked-eye appearance of the urine. In a smaller proportion of cases, however—probably about five per cent of all typhoid cases—the urine is rendered turbid by their presence. They are nearly always in pure culture. (3) They occur first late in the disease, rarely if ever before the third week, and may make their first appearance during convalescence. (4) They generally remain present for some considerable time, for some weeks or even months. (5) The character of the urine does not assist in diagnosing the condition (unless of course it be rendered turbid by the bacilli). It may contain no albumin, often contains but a trace, sometimes has a good deal, and sometimes has pus, all of which conditions occur quite apart from the presence of typhoid bacilli in the urine. (6) The prognosis of a case is not rendered more grave by the occurrence of this condition.

Finally, it may be well to contrast the infectious character of the feces with that possessed by the urine, for in many points the two are dissimilar. In the first place, it must be noticed that whereas the feces contain the typhoid bacilli in apparently every case, this does not obtain with the urine; probably, indeed, in not more than twenty-five per cent of all typhoid cases does the urine present this phenomenon. Secondly, typhoid stools are without doubt most dangerous early in the disease—within the first three weeks. The typhoid urine, however, only becomes dangerous toward the end. Thirdly, typhoid stools may contain considerable quantities of typhoid bacilli, but very rarely, if ever, do they contain such myriads as may be present in the urine. *Medical Age*, Detroit, 1899, xvii, 510.

Summer Diarrhea in Infants.

The essentials in the treatment of this disorder, according to Chapin, are: prevention, which is brought about by the proper regulation of the milk supply, the providing of small parks or airing places for children in large cities, extra cleanliness in the home, frequent bathing. He would allow the child to play in a tub of tepid water for hours at a time, and in general a bottle-fed baby should have less bulk of food and a higher dilution of milk in very hot weather than it is accustomed to under more favorable conditions. He prefers boiling or pasteurization to sterilization of milk. The first signs of any gastric or intestinal indigestion should be looked for and checked before any marked diarrhea appears. In the dietetic treatment, as most cases are due to milk poisoning, all forms of milk must be temporarily withheld and many a summer diarrhea might be aborted if this were done for from twelve to forty-eight hours. If this has to be kept up long, one of the best substitutes is egg water, made by stirring the white of an egg in half a glass of cold water, and he adds to this, to overcome its tastelessness, about ten drops of aromatic spirits of ammonia, which also seems to check the stomach irritation. Other substitutes are thin gruels from barley or wheat flour and cold whey. If milk has to be kept away for several days, mutton broth with all the fat carefully skimmed off is also a good substitute. When the acute symptoms have subsided and milk is resumed, it must be given cautiously and at long intervals and highly diluted. A barley water or thin gruel are the best diluents. Medical treatment is often of less importance than dietetic, but in vomiting, drafts of tepid water should be given, which, when rejected, wash out the stomach. It is rarely necessary to use the tube for this purpose. He usually gives 1-10 of a grain of calomel every hour for six or eight doses, which usually clears the canal. Enemas of normal salt solution may also hasten this. The drug he most relies on is bismuth subnitrate, but he also uses small doses of aromatic spirits of ammonia, 10 to 20

drops, which seems to stimulate the infant. Alcohol is given very sparingly, and only when free stimulation is required. Opium is contraindicated until the bowels have been thoroughly emptied and when cerebral symptoms threaten. In cases, however, in which rapid peristalsis and profuse glandular secretion persists, a few moderate doses of opium may be of great service and even save life.—*Med. News.* [*J. Am. Med. Ass.*, 1899, xxxiii, 219.]

Cholera Infantum.

In the treatment of cholera infantum it must never be forgotten that wonderful results are possible, even in apparently moribund cases, from thorough flushing of the colon. In an infant of 14 months, ill with this disease for sixty hours, with cyanotic skin, cold extremities and a rectal temperature of 104 degrees, Stengel reports immediate relief from the pressing symptoms, with ultimate recovery, by the introduction into the bowel, through a catheter inserted 12 inches, of two quarts of water at a temperature of 90 degrees. The water is permitted to flow out through the tube, thus washing the bowel as thoroughly as possible to free it of infective and fermenting material. By this method the temperature is reduced more surely than by the bath, and at the same time rational and harmless effort is made to remove the cause of the disease. Very often also in these cases the terrible collapse is in no small part due to a circulation depressed by the loss of blood-serum through the watery discharges from the bowels. These discharges are so profuse that the amount of uncombined water in the tissues rapidly becomes tremendously reduced, and the heart fails from very lack of sufficient pressure in the vena cava to fill the auricle, by reason of diminution in the quantity of the circulating fluid. This indication for relief, of what is practically shock, is promptly and surely met by leaving in the bowel, for absorption after the flushing, a small quantity of water. Beyond doubt it is the prompt absorption of this fluid by the thirsty tissues that causes these little patients so instantly to show beginning recovery from their terrible collapse. In addition a few fractional doses of calomel to clear the upper bowel of offending material, a diffusible antiseptic, such as spirits of chloroform and aromatic sulphuric acid, with a little paregoric for the powerful supporting qualities of the opium, and sponging the skin with cool water or alcohol, constitute a practical, simple and effective method of dealing with these distressing cases. *J. Am. Med. Ass.*, 1899, xxxiii, 238.

Recent Literature Regarding Cancer.

Frazier summarizes the valuable articles on cancer that appeared in the April number of the *Practitioner*. It is gratifying to learn that the percentage of cures is growing larger, chiefly owing to a general recognition by surgeons that it is necessary to remove not only the growth itself but the tissues through which the lymphatic vessels run and the neighboring lymph-glands. Regarding the statistical increase of carcinoma, Frazier ranges himself on the side of Newsholm, who considers the increase in cancer-mortality only apparent, ascribing it to more accurate methods of diagnosis and more careful registration, rather than on the side of Roswell Park, who believes that there is, in New York, at least, such a rapid rise in the cancer death-rate that in ten years, if the relative proportions are maintained, the mortality from carcinoma will exceed that from carcinoma, smallpox, and typhoid fever combined. The parasite of cancer appears still to be an ignis fatuus, although apparently promising observations and experiments are reported from the New York State Laboratories, of which Park has charge. Of all methods of treating inoperable cancer, that of Coley, by means of the mixed toxins of erysipelas and bacillus prodigiosus, is the only one warranting recognition. And even this is far less successful in carcinoma proper than in spindle-cell sarcoma. *Am. J. Med. Sci.* [*Phila. Med. J.*, 1899, iv, 160.]

Widal's Test Results.

Gehrmann gives the experience of the Chicago Health Department with Widal's test in typhoid fever. In all there were 715 cases observed, 570 clinical reports returned and 353 reports of the occurrence of typhoid reaction sent in. In 232 of these clinical ones, diagnosis of typhoid had been made. These tests were made with the dry blood specimens, which were the most practicable under the circumstances. Gehrmann is inclined to believe that this method is of considerable value in diagnosis and warrants a continuance, by the Department, of the practice of receiving and testing dry blood specimens sent in by practitioners. The small percentage of failures is, however, sufficient to render necessary attention to the following conditions: Close observation of the directions sent out by the Department; several examinations in cases where one or two do not seem sufficient, and the exclusion of normal and pseudo reactions in the laboratory by testing further dilutions of the blood solutions. *Plexus, Chicago.* [*J. Am. Med. Ass.*, 1899, xxxiii, 217.]

Celluloid Thread for Sutures and Ligatures.

Pagenstecher (*Deutsche medicinische Wochenschrift*, April 6th; *Medical News*, July 8th) takes a good thread, boils it for half an hour in a one-per-cent solution of soda, washes it in boiling water, and then dries it between sterile compresses. He then soaks it in a solution of celluloid, and passes it again through the same solution. Afterward it is sterilized by steam under pressure, and preserved for use either dry or in an alcoholic solution of bichloride of mercury. Such threads have a smooth surface, they never tangle, they cannot absorb secretions, and are easily tied. For three years Pagenstecher has used these celluloid threads, to the exclusion of silk, and the use of cat-gut for ligatures has been greatly reduced. The results have been of the best, and the saving in expense considerable. *N. Y. Med. J.*, 1899. lxx, 438.

Treatment of Bright's Disease.

Nestor Tirard ("Albuminuria and Bright's Disease") inculcates the following principles of treatment of this disease: In the acute form of nephritis rest in bed, restricted diet, the wet pack, diaphoretics and cathartics are to be employed during the first few days, until an increase of the amount of urine voided and the absence of hematuria denote that the renal engorgement has subsided. Until this occurs, nitrogenous food and active diuretics are contraindicated. A strict milk diet is administered when possible, but in case digestive disturbance is produced thereby, small amounts of broth of chicken, veal or mutton may be added or substituted. Persistent vomiting should be combated by small doses of hydrocyanic acid, preparations of bismuth, drop doses of tincture of iodin, or small doses of creosote or carbolic acid.

In coma or convulsions active cathartics, as croton oil, are to be administered, and if persistent headache is present, small doses of calomel combined with compound pill of colocynth are given. The wet pack is preferred to the hot-air or vapor bath, as being more convenient of application and of equal efficiency. Restlessness and insomnia are to be combated with the bromids, hyoscin and, sometimes aconite. If anasarca exists to such a degree that relief is not afforded by purgatives and the wet pack, the skin over the malleoli may be punctured to allow the serum to drain off. Digitalis and caffein are indicated as diuretics after the hematuria has disappeared. During convalescence exposure to cold, and any muscular or mental strain must be avoided. Strict attention must be paid to the diet as long as albuminuria persists, and the nonastringent preparations of iron and arsenic should be given as tonics.

In chronic nephritis, if any cause can be found—as malaria, syphilis or suppuration—this must be treated, using mercury with great care, should it be indicated. In cases exhibiting excessive dropsy and muscular weakness, rest in bed is indicated; but when the patient's

strength is good and there is but slight anasarca, a moderate amount of outdoor exercise is beneficial. The question of withholding albuminoids from the diet must be decided by the effect produced on the individual patient, though no nitrogenous food should be allowed if hematuria exists. The only limit to the amount of albuminoids to be allowed is the ability of the patient to digest them. Although sometimes a strict milk diet will cause the albuminuria to disappear, it is not, as a rule, wise to confine the diet too strictly to milk. If the patient's habits have been such that a bad effect is produced by a complete deprivation of alcohol, a small amount may be allowed, but it must be always largely diluted and taken only at meal times. If these conditions are observed, the form in which it is taken is of slight importance ; and if no loss of appetite or indigestion results from the withdrawal of alcohol, none should be given. Diminution in the amount of urine voided may often be corrected by copious draughts of water, or, if the patient can bear it, of milk. The cardiac tonics—strophanthus, digitalis and caffein—are indicated, and the alkaline diuretics if there is no hematuria. Dropsy is to be treated by purgatives, such as the compound powder of jalap and the salines, given in doses to be regulated by the effect produced on the patient ; by the carbonates and citrate of lithium and the citrates and tartrates of sodium and potassium ; and, when the heart and lungs are in good condition, by small doses of pilocarpin given in connection with the wet pack. The same agents are to be employed in the treatment of uremic symptoms. Dyspnea should be treated according to its cause, engorgement of the lungs or weakness of the heart or uremic poisoning. The use of morphin is not recommended. Life in a warm, equable climate is to be desired and light and non-exciting occupation should be followed if possible. *Med. News*, N. Y., 1899, lxxv, 109.

The Radical Treatment of Simple Ulcer of the Stomach.

Tricomi (*Revue de Chirurgie*, Feb. 10, 1899) has operated upon twenty-one cases of simple ulcer of the stomach with but a single death. He holds that the indications for operation are recurrence of ulceration with marked deterioration of general health, resistance to medical treatment followed scrupulously for a long period, intense pain, especially when accompanied by obstinate vomiting, recurrent hematemesis, and cachexia, gastric dilatation, the formation of a palpable tumor, and the development of an extensive adhesive peritonitis. As an operation of choice, the author prefers gastroenterostomy. This, he holds, is applicable in all cases, no matter what may be the state of the lesion. The loss of resistance incident to this procedure, and consequently the comparatively short period of time during which the food and the gastric juices remain in the stomach, is the probable cause for the cure which takes place. Of the author's twenty-one cases, one died of acute peritonitis in a day and a half ; another died after a month from intestinal occlusion. Tricomi contrasts the mortality of some fifty operative cases (ten per cent) with that of the cases treated by medical means exclusively (31.8 per cent), drawing therefrom the conclusion that the operation is one which if practiced early would save about twenty-eight cases in the hundred. *Therap. Gaz.*, 1899, xxiii, 411.

Nervous Symptoms of Movable Kidney.

In the *American Gynecological and Obstetrical Journal* Dr. Gustavie Futterir writing on the symptoms and diagnosis of this condition includes : Pain in the neck ; dizziness ; gastric symptoms, indigestion, cramps, vomiting, flatulency, palpitation, irregular heart action and throbbing of the abdominal aorta ; neurasthenia, trembling, dizziness, headaches, occipital or frontal, and deep depression ; frequent urination, at times painful, and in some cases albuminuria and hydronephrosis ; kinking of the renal artery, and in rare cases œdema from compression of the vena cava inferior.

Diagnosis is to be made by the above symptoms and by feeling the kidney out of its normal situation. And the above detail of symptoms shows, its diagnosis is largely to be made on neurological truths aside from the revelation of palpation. *Alienist and Neurologist*, St. Louis, 1899, xx, 492.

OF THE DISTRICT OF COLUMBIA.

Continued from July number.

Dr. ACKER took exception to the use of the word "experiment" in connection with the immunizing which had been done at the children's Hospital. He said that it had been done primarily as a preventive measure only.

Dr. GLAZEBROOK referred to the remarks of Dr. Rotch of Boston, delivered at a meeting of the Pediatric Society in Washington, in favor of the use and efficacy of immunizing doses of antitoxine. In a large hospital in that city, each child upon entering was given an immunizing dose. Dr. Rotch attested its success, and made it a standing order that every patient entering thereafter, should receive an immunizing dose of antitoxine.

Dr. KINYOUN, in answer to Dr. Chappell's question, said that it was generally understood that the diphtheria bacilli produced a poison, the absorption of which produced the local symptoms, and the cell death in other parts of the body—this change was not due to the bacilli themselves, but to the poison secreted and absorbed.

Bacteria, growing upon the outside of the body, or upon mucous membrane, may not cause trouble—e. g., the pneumococcus. Just so with diphtheria: so long as the toxins are not absorbed, and thereby do not injure the function of the cells, they are inert. If the toxin is absorbed, and there is sufficient antitoxine present in the tissues, it is neutralized and excreted.

Diphtheria bacilli may live a long time on a mucous membrane, and produce their toxin during the entire time of their existence. So long as antitoxine is present, however, no harm can be done. We should remember that we do not fight the bacteria, but the toxin which they produce. The germ amounts to nothing if plenty of antitoxine be present. This substance is the same as the system elaborates on the recovery of a case. We only assist nature in supplying this preformed substance which is in no way different from that elaborated in the body.

The use of the word "experiment" by Dr. Adams was unfortunate, and unnecessary, as the immunizing properties of antitoxine have been known since 1890. Behring was then working on the subject, but had not given the remedy in sufficiently large doses to prevent the disease. The immunizing effects of antitoxine are now beyond question and experiment. He would leave it to any one, whether we have among the drugs in common use, one which produces more certain results: it is therefore fairer and more rational to use it than many of the drugs now prescribed. We call the combining of many ingredients in one prescription "shot-gun prescribing." It may be done with the hope that if one remedy does not hit the mark, another will. But antitoxine acts in a definite known way, and produces definite results: and it should be given as freely as morphine for pain, or chloral to produce sleep. Until this is done, diphtheria will frequently crop out in familles, and institutions.

Dr. ADAMS in closing the discussion, said: He was sorry that Dr. Thompson was not present, as it was to his criticisms that he wished particularly to reply. He had been taken to account for the use of the word "experiment," and several of the members had kindly stated that it was unfortunate that the term had been used. It was not at all fair to take any one word from a discussion and dwell upon it. However, he was perfectly willing to allow such an interpretation, since he had stated in the beginning of his paper his object in administering the antitoxine, and the only time in which "experiment" was used later on. The use of antitoxine for immunizing purposes has passed the stage of experiment. One would certainly feel justified in using antitoxine for immunizing purposes after the results obtained by Dr. Morrill, of Boston. He did not think Dr. Thompson meant all that he said in its disparagement, because his liberalty is well known. If the continuance of work so successfully done in other institutions cannot be carried on in this city, the sooner the medical men resigned the better it would be

for the community at large. Dr. Thompson is constantly performing operations which he has never seen, because someone whom he recognizes as authority in surgical matters recommends it in preference to those which have been performed for years; and yet Dr. Thompson does not think a physician justified in attempting to obtain results which distinguished authorities claim to have obtained. Dr. King struck the key-note and the weakest part of the argument, when he called for the results in the surgical cases which were not immunized. Dr. Adams would freely admit that none of these cases contracted the disease. It seems rather singular that any one should ask the question: How did we know that the children would have taken the diphtheria, if the immunizing dose had not been given? We are all busy at the present time vaccinating, because of the presence of small-pox in the city. How do we know that those whom we vaccinate would take the disease, if they were not vaccinated? We believe that vaccination protects against small-pox and some of us believe that immunizing will protect against diphtheria, and that is the reason we inject the antitoxine of diphtheria. Cultures were not taken before immunization.

The so-called epidemic of the surgical ward has been referred to by two of the speakers. Dr. Adams thinks he is right in stating that the case of diphtheria was recognized in the surgical ward. As the child was being taken through the ward, it vomited on the floor from its bed to the door. The immunizing dose was given to all of the other patients, all of whom had been exposed, and cultures were taken. The ward was quarantined. Subsequently, cultures were taken from the children, and in 18 the Klebs-Loeffler bacillus was found; the Health Office did not report that the 18 children had diphtheria but the rumor spread, greatly to the annoyance of some of the members of the staff. At this time, so much unfavorable comment was being made upon the reports from the culture tubes that were sent to the Health Department that Dr. Adams obtained the consent of the Health officer to test the value of the examination, and for this purpose took cultures from the throats of healthy children, and even from a few dogs. The reports were invariably returned negative. This would seem to show that the examiner was honest in his reports. The results in immunization do not materially affect the statistics of the preceding year, when there were 19 cases, and 2 deaths.

In answer to the question as to the difficulty in giving the antitoxine, he said that no difficulty was experienced as the older children were very reasonable, and the younger make little resistance. The average duration of immunity was based on those who contracted diphtheria. If it had been based on all the children immunized, it would of course, have been very much longer.

The great point to be gained by the paper is that antitoxine does not produce any serious results.

MEETING OF MARCH 15TH, 1899.

DR. ACKER, Vice-President, in the Chair:

Dr. GLAZEBROOK presented the following specimen, *Section of large intestine having numerous pouches in the mucous membrane, each containing a small round hard faecal mass. From a man 61 years old.*

DISCUSSION.

Dr LAMB said that there were a few specimens of these diverticula at the Army Medical Museum. We would often find them, if we looked for them. The fact was that pathologists rarely make more than a cursory examination of the intestines, unless there is some especial reason for doing so. He had seen these diverticula a number of times, but he thought not in such numbers as in this specimen: and, as he remembered always in the lower colon, and not the upper colon, as here. The condition was congenital, but the retention of faeces in these pouches might give rise to inflammation and even ulceration.

Dr. D. S. Lamb presented the following specimens:

(1) *Hydronephrosis in a pig.*

Right kidney of a pig; extreme hydronephrosis; the left kidney, ureters and bladder all affected. Cause was not noted.

(2). *Both kidneys on right side.*

Right kidney enlarged and in usual place; no left kidney but in right iliac fossa was a second kidney which was small; presented a broad convex surface forwards; concave surface posteriorly where was a hilum and usual vessels; its artery arose from aorta 1.25 inches above bifurcation. Bladder showed but one ureteral opening, namely on right side. Patient died of cancer of liver; never showed any symptoms indicating anomalous kidney.

(3). *Kidney in Malarial Fever.*

Right kidney which showed in fresh state a general red and blueish-gray mottling, and a continuous zigzag dark congestion at the cortical base. From mulatto man age about 30, who gave a history of malarial disease. About November 1, 1898, began to have pain in region of bladder, chills and headache; pain in eyes and back; frequent micturition. Admitted to hospital November 18th, died on 23rd, at death had not secreted any urine for 36 hours. Post mortem examination: Body well nourished. Some broncho-pneumonia lower lobe right lung, and some oedema. Left lung, some oedema. Heart 13 oz.; right side somewhat enlarged and dilated, contained firm white clot; left side empty. Some fatty degeneration of aorta. Some cirrhosis of liver, edges rounded, general slaty color; gall-bladder full of bile. Pancreas normal. Spleen enlarged, firm darkly pigmented; some recent lymph on convexity. Stomach and intestines distended with flatus. Kidneys each 12 oz., much enlarged; showed the mottling, &c., as described. Bladder empty.

(4). *Atrophy of Right Kidney; Cause Obscure; Possibly Congenital. Some Compensatory Hypertrophy of Left.*

Specimen of extreme atrophy of right kidney the ureter of which is thickened and its lumen narrowed. The left kidney is slightly enlarged and in recent state was pale. From a mulatto man age 34, laborer, who died of acute pericarditis. His mother was said to have died of consumption. Patient said to have had syphilis and measles; was taken sick November 25, 1898 with nausea, vomiting, headache and epigastric pain. Admitted to hospital January 1, 1899 with diagnosis of influenza; had marked epigastric tenderness. Temperature subnormal throughout illness. Died January 6th. The post mortem examination showed; the body fairly well nourished. No evidence of syphilis, Pharynx congested. Larynx, trachea and oesophagus normal but the neighboring mediastinal glands were much enlarged and cheesy. Recent pericarditis, and also an old pericarditis. Heart 15 oz. Right lung 28 oz.; left 15 oz.; oedema and congestion of each. Liver congested; several tubercular nodules. Spleen, pancreas, stomach and intestines normal. Kidneys as stated. Urethra and prostate normal.

(5). *Rheumatism; Heart Disease; Contracted Kidney; Hemorrhages in Lungs.*

Specimens from a mulatto woman age about 35 years; her parents died of consumption and dropsy; one brother died of pneumonia; one sister had rheumatism. Patient had had mumps, bronchitis and rheumatism; and measles (in

1894). About September 1, 1897 began to have dyspnoea, scanty urine, pain in hypogastrium, poor appetite. Admitted to hospital September 6, 1898. Face and feet oedematous; abdomen prominent; increased cardiac dullness; first sound of heart obscured, second sound accentuated; soft systolic murmur heard best at ensiform cartilage. Died October 28th. Post mortem examination: Dropsy of lower limbs. Brain and membranes normal. Pericardium distended with serum and showed old patches of lymph. Heart 25 oz.; hypertrophy and dilatation both sides; old patches of lymph on pericardium; fibrous changes in myocardium of anterior wall left ventricle, against which rested an old clot which had softened in center; tricuspid orifice admitted 4 fingers. Fatty degeneration of ascending aorta. Both lungs compressed by fluid; lower lobe of each lung showed hemorrhages; other lobes oedematous; bloody mucus in bronchi. Liver pale, fatty, edges rounded; old adhesions, spleen somewhat atrophied. Pancreas normal. Stomach contracted. Intestines normal. Kidneys contracted, granular; cortex thinned. Subinvolution of uterus; ovaries atrophied.

DISCUSSION.

Dr. Lochboehler said that cases of hydronephrosis in the pig were not infrequently met with in the markets. He had seen many.

Dr. Bovee referring to the specimen of both kidneys on the right side said, that he had seen but one case of this interesting condition. The two ureters joining to form one near the bladder, was not common. A few specimens had been shown where a single ureter, leaving the kidney, divides into two, which empty into the bladder by separate orifices, and fairly often two ureters run from one kidney to the bladder. The first operation for splicing the ureters was performed in 1886, by Schopf. Before that time, surgeons were obliged to remove the kidney when its ureter was injured. This would now be considered unjustifiable, unless the circumstances were exceptional. Where two sound ureters are present on one side, and one is injured, or severed, we have only to ligate the two cut ends. It is seldom that we discover this duplication in operating, but the possibility of such a condition should be borne in mind.

Dr. Behrend referring to the kidney in malarial fever mentioned the case of a soldier with a marked malarial infection. Several paroxysms occurred, each of which was followed by hæmaturia. The case was an obstinate one, but yielded to quinine, and camphorated tr. of opium. He had rarely seen a case of malaria of local origin in which hæmaturia was a complication. But in those returning from Cuba, of the autumnal type, this condition appeared frequent, as he had seen eight such cases. The infection was very severe and the paroxysms frequent.

Dr. Acker asked in what percentage of their malarial cases, the members present, had found albumen and casts in the urine.

Dr. Lamb said, if he remembered correctly, 40 per cent of all cases of malaria have albumen in the urine.

Dr. Reyburn said a point of interest which had not been mentioned in this discussion, was that Prof. Robert Koch had recently claimed that the hæmaturia which sometimes occurred in the course of intermittent fever, was due not to the disease, but was caused by the excessive use of quinine. This, however, had been vigorously disputed by medical men of large experience in the treatment of malarial fevers, and for his own part, he saw no reason why hæmaturia—the so-called Black Water Fever—was ever caused by the use of quinine, but on the contrary was benefitted by the administration of the drug.

Dr. Ward said although he had treated many cases of malaria, he had never seen quinine cause hæmaturia. On the contrary, it relieves that condition. He believed that diuretics were

not used enough in malaria; that buchu, for instance was of service in this condition, and he often employed it. He thought that we should not depend upon quinine alone, but that we should also administer those drugs which tend to relieve the kidneys.

Dr. Glazebrook said there were many interesting points in Dr. Lamb's specimens. The malarial kidney presented was a typical specimen of this condition. We often see pathological changes produced by malaria in other organs, but not very often in the kidney, he had seen very few in his autopsies. He believes the condition does however occur in many malarial cases, as is evidenced by the hæmaturia. Hæmaturia of malarial origin, is undoubtedly accompanied by an acute exudative nephritis with effusion, and, as is usual in such a nephritis, we have a large percentage of albumen in the urine. He believes the acute condition in the kidneys disappears under proper care. He had seen two cases of hæmaturia which he believed due to malaria, both patients recovering. The condition was an interesting one, and might arise in the course of any acute disease. It usually passes off without any permanent damage to the kidney.

Dr. Chappell referring to the specimen of atrophy of right kidney called attention to a similar case he had reported to the Society a short time ago. The kidney in his case was about one-third of the size of the one under discussion, i. e. about the size of a lima bean.

Dr. Glazebrook said that the small degree of hypertrophy present in the larger kidney was remarkable, it was little over the normal size. Its macroscopic appearance was apparently normal, which was unusual. He asked Dr. Lamb whether any dilatation of the pelvis or ureters had been found. He had recently presented a specimen similar to this in which the atrophied condition was due to an obstruction of the ureter by an impacted calculus. He also asked whether the patient from whom Dr. Lamb's fifth specimen was taken had presented any symptoms of general arterio-sclerosis. This was interesting in connection with any case of contracted kidney, especially if there were any symptoms referable to cerebral hemorrhage, etc.

Dr. Lamb, in closing the discussion, replied that no very intelligible history could be obtained from the patient from whom the kidneys were taken. The ureters were, however, small, and there was no dilatation. He believed the condition to be congenital. He agreed with Dr. Glazebrook, that the larger kidney was not so much hypertrophied as we should expect. As regards his fifth specimen, he found no evidence of arterio-sclerosis, and did not think the kidney lesion due to that cause. He placed it in the class—small pale kidney.

Meeting of March 22, 1899.

CARCINOMA OF THE GALL BLADDER.

By W. W. Johnston, M. D.

Carcinoma of the gall bladder and bile ducts is relatively a rare disease, although quite a large number of cases have been collected and analysed by Musser in an interesting paper on this subject. Out of 129 cases of new growths in the internal organs of the body, excluding the uterus, reported by Norman Moore in 1889, cancer of the gall bladder and large bile ducts occurred in 10 cases. In his list it had about the same frequency as carcinoma of the lung, pancreas, and colon, and was about one-third less frequent than cancer of the stomach.

The encephaloid and scirrhous forms have about the same frequency; the colloid and villous forms are less commonly found.

The gall bladder is usually reduced in size and hard, adherent to neighboring

organs; perforations occur into the peritoneal cavity or into the intestine. Gall stones were found in 69 out of Musser's 100 cases. The liver is invaded by contact or by metastasis.

It is interesting to note in connection with the case reported here, that it is three times more frequent in females than in males; this and the common association with gall stones are the most striking facts in the history of the disease. The deduction has been drawn from the more frequent occurrence of gall stones in women and from the common association of gall stones with carcinoma of the gall bladder, that gall stones are the exciting cause of the neoplasm.

The chief symptoms are pain, jaundice, emaciation, cachexia, and the presence of a tumor. The disease is of short duration, lasting 6 to 7 months. The history of the case is as follows:

Mrs. W., age 60 years, admitted to the Columbian University Hospital, January 27, 1899.

Family history.—The patient states that her mother suffered, for some time before her death, with an affection of the stomach and liver, similar to her own present illness. She had twelve brothers and sisters, several of whom are now living and in good health at advanced ages; one brother died of chronic dysentery during the Civil War.

Previous history.—When 15 years of age she had an attack of yellow fever while she was visiting friends in New Orleans, La. At 22 years of age she had diphtheria, which, however, left no sequelæ, and she remained in fair health until she was 30 years old, when she had quite a severe attack of pneumonia. She then remained in good health until she was 33 years old, when there were recurring hemorrhages from the uterine cavity. Three years later she submitted to an operation, which from her description was the removal of an intra-uterine fibroid. Six months after the first operation a similar operation was done.

In 1882 she had a fever, which after a short time gave place to a dysentery which continued four weeks. During this period she states that she lost 40 pounds, which, however, she subsequently regained in part.

In 1887 she was again attacked with pneumonia. In 1888 she had an attack of epidemic influenza. Her health then remained good until in 1892, she was attacked with what was, no doubt, hepatic colic. In 1894 she again had an attack of epidemic influenza, from which she made a good recovery, to be a short time afterwards again ill with dysentery, which lasted two weeks. In September 1898 a pain developed in her side, to the right of the umbilicus, and about two inches from it, which was of a dull, dragging character. There was also much gastro-intestinal indigestion. During this period (from September 1898 to the date of the present illness) she subsisted almost entirely on mush and butter; she was, however, able to be about during part of the day.

Present illness.—The foregoing symptoms continued with slight varying intensity until the night of December 25th, 1898, when she was suddenly attacked with severe and agonizing pain, two inches to the right of and nearly parallel with the umbilicus, but which radiated with intensity over the entire abdomen; it was accompanied with vomiting and diarrhœa. The pain assumed an intermitted character and became less intense; the diarrhea lessened, but did not at once disappear. On January 7th,

1899, she observed that she was jaundiced. Until her admission to the hospital, January 27th, 1899, she was confined to her bed.

Condition on admission.—The patient was considerably emaciated. There was itching of the skin; the sclerotics and skin were of a dark lemon color; the mucous membranes were of the same color.

Digestive system.—She had pain in the abdomen after eating, of a dull character, but the agonizing abdominal pain, which appeared intermittently, is now of rare occurrence. The liver on palpation is found to be of normal size with tenderness on pressure along its lower edge. No tumor could be felt.

Respiratory system normal.

Circulatory system.—The pulse was weak and regular. The heart's area of impulse is slightly enlarged; the second aortic sound is accentuated, the other sounds are normal.

Genito-urinary system.—The urine was coffee colored and scanty.

From the time of admission the patient gradually failed. The symptoms were a rapid emaciation, increasing jaundice, continued pain in the region of the gall bladder, tenderness on pressure along the lower edge of the liver, nausea, vomiting and continuous diarrhea. A liquid diet only was taken and opiates were required to relieve suffering and induce sleep.

Examination of the blood made on February 8th, 1899: The red cells showed endoglobular necrobiotic changes such as are seen in the cachexias, cirrhosis of the liver, etc. There was a reduction of hæmaglobin. No leucocytosis was apparent.

The urine was reduced in quantity, had a normal specific gravity, was of a brownish yellow color, and contained bilirubin, a trace of albumen, and epithelial, granular and hyaline casts, with a few red blood cells and crystals of ammonium urate.

The temperature was subnormal throughout.

Death occurred from asthenia on March 7th, thirty-nine days after admission.

Autopsy by L. W. Glazebrook.

The following organs were presented to me for macroscopical inspection, the partial necropsy having been made by some one else.

Heart.—Weight 7 ounces, saffron color (jaundice). Organ appears small and flabby, ventricles somewhat dilated, postmortem, black clot in left ventricle. Aortic valves thickened at their base, beginning calcareous plates in aorta, above the valves. Coronary vessels normal in appearance.

Spleen.—Weight, 4 ounces; 5x3½ in. Muddy red color. Very soft and pulpy.

Left kidney.—Weight 4 ounces; 4x2 in. Dark red color. Capsule adherent in places, with difficulty removed, the capsule thickened. Beneath this membrane the kidney is markedly nodular. On incision, there is a decided fibrous feel. Cortex 1-16 in. in thickness. Pyramids appear prominently of a darker red color. Pelvis normal.

Right kidney.—Weight 3¾ ounces; 3½x1¾ in. Same conditions as the left except that there are two cysts, extending into the kidney for a depth of ¼ to ⅜ in.

Bladder.—Markedly enlarged and thin; empty it appears as a sac 8x7 in.

The small intestine contained hardened fecal matter, of a greyish white color.

Certain area throughout the small intestine the vessels were markedly injected in the state of a subacute enteritis.

The transverse colon was adherent to the lower border of the liver, where the chief lesion was situated, otherwise large intestinal tract appeared normal.

Stomach.—Was not included with the specimens, the duodenum, having been cut just below the pyloric orifice. Just opposite the head of the pancreas the duodenum was adherent, puckered at its upper portion to the lower border of the liver. At this point a puckered opening was seen which was larger than the usual opening of the common bile duct, the probe passed up the canal met with an obstruction at about ⅜ in., I then cut into the fibrous like mass and opened into a cavity, which before being opened, appeared the size of a small pecan nut, the cavity contained about an ounce of a sticky, yellow staining fluid. The walls of the cavity were much thickened and appeared of the same structure as the tissue extending to the duoderum and also the contiguous liver tissue. A hardened cancerous mass about ¾ in diameter in the liver substance was also found within 2 in. of the above mass. Several smaller foci were seen throughout the organ. The organ appeared bloodless, but at sections there was an escape of bile. The organ was of an olive green color. Mesenteric glands enlarged.

Pancreas.—Normal.

Uterus.—Markedly atrophied, small submucous fibroid near the fundus.

Bile duct carcinoma of the liver, with occlusion of the smaller ducts. Bile capillaries dilated and contain masses of inspissated bile. The condition is no doubt a primary carcinoma of the common bile duct.

Kidneys.—Markedly congested, cloudy swelling. Bile stained casts in the tubules. Epithelial shreds in the tubules. Tubules appear to contain hæmaglobin in distinct granular masses. Red cells undergoing disintegration.

DISCUSSION.

Dr. LAMB said he had seen two cases of primary cancer of the gall-bladder—one in a white soldier, the other in a colored man. The cancer in the first case involved the liver, and in the second case the colon, by contact. In neither case were gall-stones found. We must all admit that the presence of gall-stones in the gall-bladder tends to excite the growth of a tumor, if a predisposition already be present. Without such a predisposition he would hesitate to believe that the gall-stones were ever the direct cause of tumors, as we find the stones so frequently when no such growths exist. Many years ago it was thought that there might be some connection between cancer of the stomach and gall-stones. In some cases, it was difficult to determine whether the cancer in the gall-bladder, or that in the liver was the primary growth.

Dr. GLAZEBROOK said that most of these growths attack first the fundus of the bladder. Here, however, it attacked first the neck, beginning with the ducts. He further quoted from the report of the autopsy which he had made on the case.

Dr. BOVEE said that the belief that there is a causative relation between the presence of gall-stones, and cancer of the gall-bladder, ducts, and adjacent parts, is more common than is generally supposed. He remembered a discussion in which Dr. Reed, of Cincinnati, said that gall-stones are often the cause of carcinoma. He cited 4 cases of cancer of this region in which an operation had been performed for cancer of the gall-bladder, and gall-stones were found in all four. He had found that in 90 per cent of all cases of cancer of the gall-bladder, gall-stones were present. He thought that the constant irritation which they produced might give rise to cancerous growths, like irritation elsewhere in the

body. But when we remember the exceeding frequency of gall-stones compared with that of cancer of these structures, this relation would appear to be very slender, indeed.

Dr. BEHREND said that it was important to know how to make an ante-mortem diagnosis in these cases. He reported a case similar to Dr. Johnston's. The patient, a woman, about 40 yrs. of age. About a year before her death she was seized with biliary colic. A close examination, however, failed to disclose the presence of gall-stones. She became progressively worse; the liver was small, and nodular; she became deeply jaundiced—almost black—and suffered from indigestion. At first the question arose as to the diagnosis—cancer of the liver, pancreas, or what?

Dr. ACKER said that there were two interesting points about these specimens: first the question of diagnosis, and second, as to heredity as a causation of cancer of the gall-bladder. It is often very difficult to make a positive diognosis in these cases. We may not be able to find a tumor, and often have nothing but emaciation and jaundice—and these are not pathognomic. He saw a case several years ago—a man 45 yrs. of age, jaundiced, and comatose. He was sensitive over the region of the liver, and a tumor could be felt there. The history was very much like that of cancer of the liver. Post-mortem examination did not show cancer, or anything to explain the jaundice. He saw a case about a year ago. The patient jaundiced, sensitive over the liver, and emaciated. Post-mortem, a small cancer of the pylorus was found, but nothing to account for the jaundice. As regards causation, he believed in hereditary predisposition here, as elsewhere. He has at present a case of cancer of the liver. The mother of this patient was treated last summer for cancer of the liver.

Dr. GLAZEBROOK asked Dr. Johnston how long prior to death the colic attacks had recurred—to which Dr. Johnston replied—"Last Christmas". Dr. Glazebrook said that he could not understand how gall-stones could get through the ducts at that time, as at the autopsy, they were found to be completely obliterated.

Dr. J. FORD THOMPSON said that the diagnosis in these cases was very important. He had also seen this case, and while the general impression was that the condition was due to a stone in the common duct, the possibility of cancer was considered. He knew of no sure way to make a diagnosis in these cases except by an exploratory incision. This is not a dangerous operation, and there is no reason why it should not be done in these cases. Having ascertained the conditions present, the proper operation should be performed. This case was seen, however, too late. If seen earlier, he had no doubt, if an exploratory incision had been made, and the gall-bladder extirpated, or stitched to the parietal peritoneum, the patient's life would have been prolonged. These cases are not favorable for operation, but we can often do something to prolong life, or make the patient more comfortable.

Dr. JOHNSTON, in closing the discussion, said that the differential diagnosis between cancer of the gall-bladder, and cancer of the head of the pancreas was very difficult. Diagnosis of the condition from cancer of the liver is, however, easy, on account of the enlargement of the liver in the latter condition. When he first saw this case, the symptoms present led him to make a diagnosis of cancer of the liver—and this was correct, but the growth there was secondary. Subsequently, after a more careful examination at the hospital, the symptoms, etc., pointed to gall-stones. Emaciation, cachexia, and jaundice, progressed so rapidly however, that it soon became evident that the case was one of cancer. The question was as to the location of the growth. The symptoms all pointed to cancer of the head of the pancreas. Diagnosis of cancer of the gall-bladder was not made as no tumor could be detected—and without this, he did not see how a differential diagnosis between these two conditions could be made. An exploratory incision was not made,

as the patient failed so rapidly after admission.

HAS MANKIND A RUDIMENTARY SIXTH SENSE IN PROCESS OF EVOLUTION.?

By Mary Parsons, M. D.

See National Medical Review, page 530.

Dr. Godding said all our senses are somewhat rudimentary. Intently listening, was able to catch almost every word of the paper: but there is the woodpecker, who lays his fine ear to the stump, and hears the worm nestling in his couch—how does our hearing compare with his? The bee by his unerring instinct, draws a line too straight for our sense of locality to follow. The sight—how is it with the eagle, who sees the fish from a height that with our eye we cannot fathom? Indeed, Helmholtz has said of the human eye, that if an optician had made an instrument as faulty in its construction as that, he would be justified in returning it for its imperfections. Yet, when we consider it, how wonderful is seeing.

Was glad the attention of the society had been called to this matter of the sixth sense, fourth dimension, telepathy, clairvoyance, thought transference or occult force, by whatever name recognized, and to all the work that is being done, notably by the Society for Psychical Research, to ascertain what truth, if any, underlies it all. Our own Hudson in his book claims to have discovered the Law of Psychical Phenomena, which law, however, seems to me very far from explaining all the observed cases. Perhaps the most satisfactory studies of the subject will be found in the writings of W. H. H. Myers, and Frank Podmore of the English Society of Psychical Research, and the conclusions of Richard Hodgson. These gentlemen, with their associates, have devoted much time during the last fifteen years to the investigation of so-called occult matters—trance conditions, thought transference, phantasms, etc., endeavoring to eliminate fraud, mere coincidence, and all matters not clearly established by reliable testimony, to see what residuum of fact was found at last. Their studies have been careful and exhaustive, and Dr. Hodgson's conclusions are well worthy of your perusal.

He had promised to speak of Mollie Fancher, whose case he examined some three years ago.

She is a Brooklyn girl, who in 1865, was terribly injured in a railroad accident, the injuries being about the head and spine, and she has ever since been an invalid, confined to her chamber.

During this time, some strange phenomena have been observed in her case, resulting presumably, from her injury, that throw some light on the questions of psychic conditions raised in Dr. Parsons' paper. She is bed-ridden, totally blind, as experts who have examined her have testified—although that she sees in some way is evident. Her letters one of of which has been shown here, establish the fact. He had sent one to the Superintendent of the Maryland School for the Blind, and he and his teachers agreed that no blind person could have written it. She told me that "at times she saw at the top of her head. at times the room seemed full of light, and at times she could not see at all". She keeps her room at all times shaded, often very dark. She is cruelly maimed, and for 9 years following her injury, her right hand was drawn up above her head and she worked and wrote with it in that position. Of those 9 years she has no recollection. Yet, during that time she worked delicate embroidery and worsted work, selecting the colors of her silks and wools with faultless taste. She modeled multitudes of beautiful flowers in wax, and wrote thousands of letters. Her hand is now relaxed, she still selects her colors, and works and writes her letters, but all that time is a blank. She has had anything but natural sleep—trances replace it. In these trances she changes her personality, is again the little girl of 14 before the injury, writes in a schoolgirl hand, sings the little hymns she knew in her childhood and knows nothing of invalid life. Those who have watched her in these trances have noted not merely a dual self, but five distinct personalities that recur night after night. Stranger yet, she passes in these trances from the

narrow bounds of her chamber, and visits other homes and places. Her own language, and it seems an honest statement, is: "It seems to me at times that I go to various parts of the country or city, and see persons and places and know what is transpiring; and whenever I do, and take pains to find out from persons, whom I visit upon these occasions, whether they were at the places at which I saw them and were doing the things which I saw them doing, if they are able to recall the circumstances at all, they invaribly satisfy me that in some manner inexplicable to me I was either absent from the body and was with them, or was able to make my observations without the obstruction of material objects, unaffected by distance."

As scientific students we should inquire into these things. Especially interesting is Dr. Hodgson's statement of the seances with Mrs. Piper, removed from all opportunity for fraud. One George Pelham, who had formerly met with the society and accepted nothing of a future life, but said if he found himself continuing, he would come back and make it lively for them, did later through Mrs. Piper make it lively sure enough. In the intimation of continuance of the individual existence, perhaps the chief value of these studies lies. We approach the unsuperable threshold, the inevitable limit where materialistic science stands clear cut and glittering, an iceberg fronting oblivion, from which we turn longingly to the fountain of life and immortality with the old, agonizing cry, "Give me of that water, that I thirst not, neither come hither to draw."

Dr. BEHREND related an experience which he had had with Mrs. Young, of Boston, who makes pianos dance by the touch of her hands. She gave him an exhibition of her powers, asking him first whether he could lift a grand piano. He said he could not. She approached it, laid her hand upon it, and it commenced to move around the room, and brought up at the opposite side. She then sat down and played upon it, and commenced to cry, saying that her mother sat beside her. He at first thought she moved the piano by mere strength, he therefore sat upon one end of the piano and watched her closely: but she caused it to jump up and down, and around even more than before.

Dr. LAMB thought that a circumstance which had occurred in connection with his post-mortem work might be interesting to the society in connection with Dr. Parson's paper. About a yeas ago he had made a p. m. examination for Dr. G. Wythe Cook on a man, a native of Venezuela, who had died of cancer of the stomach and liver. A few months later he made an examination for Dr. Parsons of another man, also a native of Venezuela, who also had died of cancer of the stomach and liver. One day Dr. Parsons called at Dr. Lamb's office to look at the specimen from her case: and brought with her a lady friend who, while not a professional medium, was a sensitive. While examining the specimen, this friend remarked that she saw coming in at the door a tall, broad-shouldered, dark-featured, man who asked why the specimen from his case was not shown, as it was much more interesting. On referring to his record, Dr. Lamb recalled the case of the other Venezuelan whom the description fitted so well. On inquiry it was learned that Dr. Parsons knew nothing of this man and her friend knew nothing of either of the men. Inquiries showed that the men had long been friends. Dr. Lamb said that he had no explanation to offer of this curious incident.

Dr. LAMB presented the following pathological specimens, with reports of cases:

(1). *Cerebral Hemorrhage.*

Specimen consists of the part of brain below corpus callosum. A large, dark clot of blood in right cerebral hemisphere from rupture of vessel, anteriorly and to right of right lateral ventricle; extensive destruction in right fronto-parietal region, the blood breaking through also into the lateral ventricles and thence into third and fourth ventricles. Blood was also found over right parietal dura and under piamater of anterior part of left frontal lobe. Blood vessels at base

atheromatous. From a mulatto man, age about 35 years, who was admitted to hospital comatose and died two hours afterwards. There was no history at all, and no sign of violence. At the post mortem examination found the body well nourished; a large old exostosis on one thoracic vertebra, cause unknown, lungs normal except old adhesions of left; heart normal; some passive congestion of liver; spleen small; stomach and intestines normal; kidneys fatty. The specimen is interesting from the extensive hemorrhage and comparative youthfulness of patient; atheroma of blood vessels was the predisposing cause, exciting cause unknown; a fall or blow was suggested and the pial and dural hemorrhages seemed to justify suspicion, but there was absolutely no mark of violence. He may have fallen at the time of the apopletic seizure.

(2). *Congenital Cyst of Kidney.*

Specimen of right kidney showing single globular cyst. 3.5 by 2.5 inches in dimensions, projecting from anterior, outer, lower part and into hilum; kidney otherwise seems normal. The left kidney was also normal. These cysts are generally considered to be congenital.

(3). *Congenital Diverticula of Colon.*

Specimen of sigmoid flexure showing many small pouches, the congenital diverticula, containing lumps of feces. There is no pathologic condition.

(4). *Cerebro-spinal Meningitis.*

Specimens of portions of brain showing exudate in subarachnoidal spaces and in ventricles. From a colored man, age 45, who was admitted to hospital March 17th, semi-comatose, pupils dilated but responsive to light, shallow respiration, wild expression of countenance, rigidity of muscles of neck, dorsal decubitus, restlessness, patellar and plantar reflexes normal, urine dark and very albuminous. Temperature ranged from 99° to 101.4°; respiration 35 to 60; pulse 96 to 102. Had been sick 3 days. Died 3 days after admission. Sickness therefore covered 6 to 7 days; at the necroscopy found body well nourished. Dura firmly adherent to calvarium; frontal sinuses very large and contained concreted mucus, chalky plates in falx cerebri, soft black clot in right lateral sinus; white clot in superior; longitudinal sinus; thick layer of greenish-yellow lymph covered convexity, base and median surface including pons and medulla and lined the ventricles everywhere, but did not appear to extend markedly down the cord. Heart normal; white clot in right ventricle. Firm old adhesions of right lung; left lung free; bronchial exudate in each lower lobe; right upper lobe partly collapsed, lower lobe congested; left upper lobe edematous; some ecchymoses of pleura. Bronchial glands and esophagus normal. Stomach seemed thickened; intestines normal. Vermiform appendix entirely enclosed in mesentery. Liver normal; gall-bladder full of bile. Spleen small. Pancreas normal. Right kidney showed large congenital cyst. Left kidney normal. Prostate normal. Bladder somewhat distended with serum.

This is apparently an ordinary case; there were no petechiæ.

DISCUSSION.

Dr. KINYOUN said he had only been able to obtain one post-mortem, in eight cadavers which had come to his notice. This examination was made upon the body of a boy of 16 years, who died after having been ill 5 days; the autopsy was made 12 hours after. The brain and spinal cord presented the typical appearances of the disease. There was a fibrino-purulent exudate along the course of

the vessels of the brain, particularly upon its superior surface, which extended also the whole length of the spinal cord, being especially marked upon its posterior surface. The amount was greater in the cervical, and lumbar regions. There was also considerable hemorrhage into the membranes, especially posteriorly. The organs were normal, excepting the lungs. Took a specimen from the mucous membrane of the nose and mouth, and found the diplococcus lanceolatus. The lungs showed signs of a recent pneumonia. Cultures from the lung gave a pure culture of diplococcus lanceolatus. The pneumonia frequently complicating the epidemic form of cerebro-spinal meningitis is due to a diplococcus intracellularis. In the 7 cases in which he could not obtain autopsies, he had confirmed the diagnosis by spinal puncture. In all but one, he succeeded in growing the diplococcus intracellularis.

This is a peculiar organism, most resembling the gonoccus in its biology and staining reactions. It differs from the gonococcus in that it can be grown for 1 or 2 generations on blood serum. He has succeeded in communicating the disease to goats by the injection of this organism into the spinal canal.

With regards to the exudate, it varies in different cases and with the duration of the disease. In a 6 months infant he made a lumbar puncture, and drew off 2 cc. of a clear fluid, which, on centrifugalization, showed few pus cells, several of which contained diplococci. On culture, a sparse growth was noted the following morning.

Had been called to investigate an epidemic supposed to be cerebro-spinal meningitis at Albany, Ga. There had been 29 deaths within 6 weeks. He had, however, only 1 typical case under treatment: but there was a question as to the diagnosis in several cases which proved to be a mild form of the disease. He made cultures from the brain and spinal cord from 1 case, and obtained the micro-organism of cerebro-spinal meningitis. Inoculations in the lower animals also produced the disease.

The question arises as to the treatment, and the first inquiry is as to the manner in which the disease is contracted. It is evident that it is due to a definite cause, but we do not at present know just how the infection reaches the brain. Some claim that it gains entrance by way of the nose. It is true that in his cases he repeatedly found the organism in the nasal secretion. The fact that the disease often commences with a cold, or coryza—as was the case in Georgia—tends to strengthen this view. He believed that the organism gained entrance through the mucous membrane of the upper air passages, and that it is epidemic, and that it is in some way connected with the moving of troops, and war. As regards the last, if he remembered correctly the 1st case broke out among the Volunteers at Springfield, Ill., and then at Chicago. After that, successively at Chickamauga, Knoxville, Lexington, Nashville, Macon, Atlanta, Savannah, Albany, Ga., Baltimore, Boston, Philadelphia and Washington. In all these places it appeared to be connected with the troops. In Albany, and 2 other places, the cases in the army appeared synchronously with those in the town. In other places, it has been confined to the residents.

He believed that we should regard it as an infectious disease: and as several often have it in one family, that we should direct attention to the houses wherein it has occurred. Instances are on record where a family, moving into a house in which it had but recently occurred, were taken down with the disease. It should be treated as an infectious disease—like diphtheria, and the houses carefully disinfected.

Dr. ACKER asked Dr. Kinyoun whether he believed the diplococcus lanceolatus to be the characteristic organism of the disease. Dr. Kinyoun replied in the negative.

Dr. CHAPPELL said the subject should be freely discussed. He had recently had a case of cerebro-spinal meningitis in the country. It was before the disease became prevalent, and at first the real nature of the case did not occur to him, but he soon after made the diagnosis. He had vaccinated, at his office, 2 bro-

thers of this child on Feb. 25th, two days before he was called to see her.

She had, however, been taken ill the day of the vaccination. No one can claim then, that the vaccination of her brothers could have had anything to do with her illness. Her illness began on Friday night with vomiting: she had eaten heartily of hominy fried in lard. On Saturday she seemed better. On Sunday, the day Dr. Chappell saw her first, she was worse. Her temperature was then 103, pulse rapid, and tongue coated—nothing characteristic of meningitis was noted. On Monday, her temperature was 105 but there were still no symptoms pointing especially to meningitis. On the next day characteristic symptoms appeared—rapid breathing without trouble to the lungs, occasional screaming, and soon after, bowing of the neck. The child died in a comatose condition an the 5th day. There had been no convulsions, but jerking movements of the extremities. The temperature just before death reached 108. The question arises, was this, the epidemic form of the disease? If so, how did the infection occur at such a distance from the city? The people had no near neighbors, but the father visits the city daily.

Some years ago he had a somewhat similar case which lived from April 8, to June 3. He thought the condition typhoid fever, until jerking of the extremities and screaming appeared. This patient also died comatose. He also had a case of meningitis a few years ago due to mastoid abscess following typhoid fever. Quoted Dr. Osler's classification of acute leptomeningitis. Also from Bonome, regarding the varieties of organism liable to produce epidemic cerebro-spinal meningitis.

Dr. Kinyoun had said that it was important to know how to treat the disease, and he had hoped he would tell how. In his 3 cases, the mortality had been 100 per cent.

Dr. HICKLING asked whether spots had appeared in the cases he had reported. Dr. Chappell replied in the negative.

Dr. BEHREND asked whether the appearance of the disease had been preceded by coryza. Dr. Chappell replied in the negative.

DR. LOCHBOEHLER *presented a specimen of cystic kidney in a hog.*

This condition is congenital and is quite common. The kidney is the seat of one or more cysts, varying in size from a hazel nut to almost complete involvement of the gland, and sometimes affects both organs. The fluid is of a sero-sanguinolent character and closely approaches that of hydronephrosis. A curious fact about these cases is that whilst the kidney is diseased, the animal is otherwise healthy and the meat is sold as wholesome and edible. It is supposed that the echinococcus plays an important role as a cause, but examination in three of the cases failed to reveal the hooklets. That it is a true disease is shown by the diminution or absence of fat which is so abundant around the kidney in the healthy animal, and this diminution increases in proportion to the amount of tissue involved by the cyst.

DR. HICKLING *presented a Fused Kidney, with notes on the case.*

The specimen is of interest from an anatomical standpoint and in the surgery of the kidney, it is well to keep in mind the possibilities of anomalies in the shape as well as in the location of this organ.

This specimen was removed from the body of Felix Samar 38 years of age, born in Russia, and by occupation a tailor. His kidney was found in a normal position (between the two lower dorsal and two upper lumbar vertebra) they are somewhat larger than normal weighing together with the attached vessels 14 ounces. The blood supply anomalous: the two left renal arteries

arising separately from the aorta and go direct to the upper and lower part of the hilum ; on the right side an extra artery leads from the right iliac to the outer edge of the inferior convex surface. The cause of death was cancer of the stomach and chronic alcoholism.

Fusion of the kidney occurs in three forms, the first of which this is the type and which is the most frequent, the kidneys being united at their lower ends. In the second form union takes place in the middle by the hili. The third form is where the two kidneys grow together at their upper ends, this being by far the rarest of the three forms.

In several specimens that I examined recently at the Army Medical Museum I find that in some the union is not so complete as in the specimen presented, several of these being joined together merely by connecting bridges or bands of membrane. In other specimens examined the embryonic form or the lobulated appearance is well marked making the specimens appear to have a third kidney.

The horse-shoe kidney is undoubtedly congenital as the constant abnormal conditions of the blood supply clearly indicate. It has been estimated that the horse-shoe kidney is found once in every sixteen hundred cases.

This condition was formerly supposed to be caused by an arrest in the development of the kidneys, the older anatomist believing that the lobulated condition of the kidney found in the fœtus and in early life indicated that they were originally one organ and that it merely failed to separate. It is now believed however that as the name implies the two organs laying as they do in close contact in early life grow together or fuse one to the other.

Fortunately for the surgeon this condition has not been found associated with kidney diseases and most of the specimens seem to be as this one is a healthy kidney.

To the physician however they sometimes offer difficulties in diagnosis, one case being reported in which a horse-shoe kidney was mistaken for a dilatation of the abdominal aorta. While this form of kidney usually exists without any symptoms whatever yet there are several cases reported in which it has been found to be the cause of death. In one case an acute congestion of the fused kidneys caused a compression of the inferior vena cava that caused a thrombosis of the vein and death resulted from a complete arrest of the circulation.

Von Langenbeck states that in a few cases that he has seen, children die suddenly of brain symptoms, probably uræmic, in which the autopsy revealed the presence of horse-shoe kidneys but as far as can be learned in this case the kidney condition had nothing to do with the cause of death.

DISCUSSION.

Dr. VAUGHAN said that he had seen a similar specimen about two years ago. In his case so close was the fusion that he called it "single fused kidney." It lay on the right side. Four arteries entered it—one from the left, and three from the right side of the aorta. It had two ureters, one leaving the kidney above the other. They entered the bladder normally. The urine was found normal after repeated examinations at the hospital.

The subject is especially interesting to the Embryologist, comparative Anatomist, and Surgeon. A surgeon once removed the only kidney a woman had. The possibility of such a condition should be borne in mind before removal of the kidney. The fact that two ureters are found below, by catheterization or the

cystoscope, may be misleading: there may be but one ureter, leaving a single kidney, and dividing lower down; or, more frequently, both kidneys come from a single kidney mass. The single fused kidney is the rarest of all deformities of the kidney. According to Woolsey it occurs 1 in 8,000 cases: horse-shoe kidney, 1 in 1,600: single kidney, one being absent, 1 in 4,000.

A CASE OF PEMPHIGUS CHRONICUS VULGARIS OF THE LARYNX (ABSTRACT).

DR. J. H. BRYAN.

The disease is uncommon in this country; but is much more frequently met with abroad.

The patient, a woman, complained in Oct. 1898, of certain indefinite sensations in the larynx. The attacks were frequent but not of any duration, principal sensation being that of a foreign substance in the larynx. Examination showed nose, naso-pharynx and pharynx in good condition, but with the mirror a small white membranous deposit about ⅛ in diameter was observed on laryngeal surface of epiglottis. Deposit easily detached, but membrane although red showed no loss of substance. Deposits recurred frequently after short intervals.

Under the microscope the membrane showed a fibrinous deposit containing numerous round cells, but no epithelium, staining with Gram's method showed a large number of cocci.; but no bacilli. The patient has never had any eruption on the skin. Nothing abnormal found in examination of the blood. Urinary analysis showed a slight trace of albumen with a few blood corpuscles and pus cells, and a few granular and hyaline casts.

This disease is essentially a chronic one. Local applications have no influence upon the development of the bullae, but mild alkaline and oily solutions will be found to be soothing to irritated membrane. The only remedy which is supposed to have the slightest influence on the disease is arsenic either in the form of the Asiatic pill or Fowler's solution carried with point of tolerance.

DISCUSSION.

Dr. ADAMS said that he had not seen the disease in the larynx, but had observed it elsewhere on the body in 2 cases at the Children's Hospital, and could testify to the rapidity with which the bullae form. They then remain some time unless opened. It was his custom to have them opened at the periphery. One of these cases was very severe. In neither patient did the disease attack the mucous membranes. The only treatment which was of benefit was arsenic, given to the point of salivation. Both of the cases had received arsenic before entering the hospital, but it had been discontinued. The bullae were opened at the periphery, as above stated. The serum ran out, the skin dried up, and was shed.

Dr. J. DUDLEY MORGAN said that it would be interesting to know what relation existed between renal disease and pemphigus. Granular kidney is often found in these cases: he had seen two cases of this.

Dr. ADAMS said that if we accept the theory that both of these affections are neuroses, the connection between them is easily explained.

Dr. BRYAN said that there is little doubt that some connection exists between granular kidney and the nervous system. In the case reported, there was excessive urinary secretion, averaging 50 oz., daily.

Dr. LAMB asked Dr. Bryan whether he considered 50 oz. of urine a day an excessive quantity: he did not think so.

Dr. BRYAN replied that in case of a patient like this one, who drank very little water, he thought 50 oz. daily, an excessive quantity.

A Physician's Success

Depends upon his

Ability to Cure Disease.

One obstinate case permanently relieved means so much increase in his business. There are many such obstinate conditions met with in the nose and throat—there is Chronic Atrophic Rhinitis, for example. At *The Vanderbilt Clinic* they use

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in treating this affection. Others have found it equally efficacious in a variety of diseased conditions of the nasal and pharyngeal mucous membranes notably in

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Therapeutic Notes.

The American Electro-Therapeutic Association.

The American Electro-Therapeutic Association will hold its ninth annual meeting at Washington, D. C., September 19, 20, 21, 1899. The President, Dr. F. B. Bishop, appointed the following Committee of arrangements:

Drs. D. Percy Hickling, Chairman, Jos. Taber Johnson, G. Lloyd Magruder, Z. T. Sowers, Robert Reyburn, G. Betton Massey, Chas R. Luce, Elmer Sothoron, Llewellyn Eliot, Clifton Mayfield.

Willard's Hotel has been chosen for the Headquarters, and special rates have been made for all interested in this meeting.

Many able papers have been promised and a very successful scientific meeting is assured. There will be a large and varied exhibition of Electro-Therapeutic apparatus in Willard's Hall during the meeting of the Association. Willards Hall is well adapted for this purpose, as it not only adjoins the Headquarters but communicates with it by a corridor, there is also a large entrance directly from the street. The Committee also promises a very pleasant social program, including a reception by the President of the United States, an excursion to Mt. Vernon, Arlington and Alexandria—a Buffet lunch to be served at Alexandria,—an evening visit to the Congressional Library to be viewed under electrical illumination. Provisions have also been made to visit the War, State and Navy Department, the United States Treasury and other public buildings.

It is earnestly hoped that every fellow, Active, Honorary and Associate will be present at this meeting as we want to make it rank among the notable meetings of this Association.

The Inflammatory Condition in Peritonitis, etc.

An interesting reference to an extensively prescribed remedy is found in that valuable text book "Materia Medica and Therapeutics" by Finley Ellingwood, A. M., M. D., Chicago. The substance of the article is to the effect, that the influence as a pain reliever of the popular analgesic—Antikamnia—is certainly next to morphine, and no untoward results have obtained from its use, even when given in repeated doses of ten grains (two five-grain tablets). It is especially valuable during the progress of inflammation, and given in pleuritis or peritonitis it certainly abates the inflammatory condition, relieves the pain at once and the diffused soreness shortly as satisfactorily as opium. It does not derange the stomach or lock up the secretions. It is also of value in pain of a non-inflammatory character, and is a convenient and satisfactory remedy in headaches without regard to cause, if the cerebral circulation be full.

A Tale of a Wicked Druggist who Substituted.

Once upon a time there was a man of parts, who was also a physician.

And the skill of this man was so great that the people of the land were wont to flock unto his office for advice, and incidentally medicine. As the years passed by he grew in wisdom, and the sick and suffering who sought relief from him invariably found it, for his consultation price was five. And to those whose red blood corpuscles were few and far between he always prescribed a favorite medicine, the like unto which there was nor is no equal, no not one. And the name thereof was Pepto-mangan.

And the pale people who took this medicine grew well and strong, for their blood became good. Then their souls would be full of gladness and they would return unto the Doctor laden with milk and honey, for by his advice had they not found health and happiness? And the Doctor was glorified in the eyes of his patients, and many shekels were his.

Now there was a certain Druggist to whom the people were wont to take the Doctor's prescriptions to be filled. His face was that of an Angel and a small halo of his own manufacture encircled his fair forehead. But his heart was black within, and verily he was possessed of a devil. And when he saw the great sale of Pepto-mangan, and the

(Continued on page 176)

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Doctor :

How is that case of scrofula getting along? About the same old way as it has for years, is it not?

You see by this time that the alterative and general tonics give but temporary benefit. Sometimes, in fact, they irritate and aggravate the case.

Did you ever think what is the real pathology of scrofula?

It is deficiency or degeneration of the tissue walls. This allows extravasations of blood, and diapedesis of corpuscles, forming eruptions and suppuration. It is not "bad blood," but bad tissues.

Notice that rickety building over there. It is crumbling while those near it, much older, are still strong. What is the matter? Bad brick and mortar in its walls. It can be stayed awhile with props, but soon the radical change must come of tearing it down and building it over with good material.

Now, Doctor, your scrofulous patient is in the same condition, with this difference: Nature is constantly removing the old material in his tissue walls, and replacing it with new. In seven years, without any cessation in his existence, he will be composed of entirely new material. This gives you a golden opportunity to put in some extra good material.

What shall it be?

Shall it be iron, quinine, strychnine, arsenic and manganese? No. They only prove to be irritants. The only remedy is hypophosphites of lime and soda—the true reconstructives of the tissues. By using them faithfully and constantly you will gain gradual improvement at once and permanent cure in a few years.

You see the philosophy of it, don't you?

The only chemically pure preparation of these tissue foods is McARTHUR'S COMPOUND SYRUP OF THE HYPOPHOSPHITES OF LIME AND SODA. All others contain, in addition, the irritant "tonics," so delusive in their results. Be sure that your patients are served with none other than McArthur's. You can add to it in the prescription any other remedy specially indicated at special times.

Other diseases particularly requiring this remedy are Tuberculosis (twin brother of Scrofula), Rachitis, Chronic Cough, Chronic Bronchitis and Throat Affections, Chronic Alcoholism, Impotence, Nervousness, General Debility, Brain Exhaustion, Loss of Memory, Chronic or Wasting Diarrhœa, Suppurating Discharges and Sores, Uterine Fibroids, and all diseases characterized by waste or faulty nutrition.

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or	Nitroglycerin	$\frac{1}{50}$ gr.
	Strychnine Sulph.	$\frac{1}{50}$ gr.
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And Where Nature fails to make Good Blood,
WE CAN INTRODUCE IT.

BOVININE is Bovine Blood Unaltered from the Arteries of the Bullock;
The Universal Auxiliary of Modern Medicine and Surgery,
and the TRUE "ANTITOXIN" of Healthy Nature.

In the more enlightened progress of Modern Medicine, "Blood-letting" has given place to Blood-*getting.*

Aye! Get Good Blood—but How? Not by the Alimentary Process. It has already failed to do its work (else the patient would not be sick); and in acute disease must not even be allowed to do the work it can. Stimulate as you will, the whole sum of the patient's alimentary power when fully forced into play, is unable to keep up the nourishing and supporting contents of the blood. There is absolutely but one thing to do; and, thank God, that can be done, usually with success, as ten-thousand-fold experience has proved. That one thing is this: where Nature fails to PRODUCE good and sufficient Blood, WE CAN INTRODUCE IT from the arteries of the sturdy bullock, by the medium of BOVININE.

The vital activity of this living blood conserve rests on no man's assertion: it speaks for itself, to every properly equipped physician who will test its properties microscopically, physically, or therapeutically.

TRY IT IN PRACTICE.

TRY it in ***Anæmia,*** measuring the increase of red cells and hæmaglobin in the blood as you proceed, together with the improving strength and functions of your patient.

Try it in ***Consumption,*** with the same tests from week to week.

Try it in ***Dyspepsia*** or Malnutrition of young or old, and watch the recuperation of the paralysed alimentary powers.

Try it in ***Intestinal*** or gastric irritation, inflammation, or ulceration, that inhibits food itself, and witness the nourishing, supporting and healing work done entirely by absorption, without the slightest functional labor or irritation; even in the most delicate and critical conditions, such as Typhoid Fever and other dangerous gastro-intestinal diseases, Cholera Infantum, Marasmus, Diarrhœa, Dysentery, etc.

Try it per rectum, when the stomach is entirely unavailable or inadequate.

Try it by ***subcutaneous*** injection, when collapse calls for instantaneous blood supply—so much better than blood-*dilution!*

Try it on ***Chronic Ulceration,*** in connection with your antiseptic and stimulating treatment (which affords no nourishment) and prove the certainty and power or topical blood nutrition, abolishing pus, stench, and PAIN, and healing with magical rapidity and *finality.*

Try it in ***Chronic Catarrhal*** Diseases; spraying it on the diseased surfaces, with immediate addition of peroxide of hydrogen; wash off instantly the decomposed exudation, scabs and dead tissue with antiseptic solution (Thiersch's); and then see how the mucous membrane stripped open and clean, will absorb nutrition, vitality and health from intermediate applications of pure bovinine.

Try it on the ***Diphtheritic Membrane*** itself, by the same process; so keeping the parts clean and unobstructed, washing away the poison, and meanwhile sustaining the strength independently of the impaired alimentary process and of exhaustive stimulants.

Try it on ***anything,*** except plethora or unreduced inflammation; but first take time to regulate the secretions and functions.

Try it on the ***patient*** tentatively at first, to see how much and how often, and in what medium, it will prove most acceptable—in water, milk, coffee, wine, grape, lemon or lime juice, broth, etc. A few cases may even have to begin by drops in crushed ice.

A New Hand-book of Hæmatherapy for 1898, epitomizing the clinical experience of the previous three or four years, from the extensive reports of Hospital and private practice. To be obtained of

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countless prescriptions which the Great Doctor was writing for this marvelous remedy, his heart was full of envy and greed.

"Why," cried he, "should not I with all my knowledge of mixing drinks and medicines prepare a remedy like unto this Pepto-mangan?"

So out of the iniquity of his heart he prepared him a substitute.

And to the many who came to his store clamoring for Pepto-mangan he would say that he was just out of that particular preparation but that he had another "quite as good, if not a little better." And the good people looking up at his halo believed him for an honest man and went forth from his store well pleased at his kindness in giving them something even better than what the Doctor ordered. To others he would say nothing, but would fill their prescriptions with his own concoction and send them away in ignorance of what he had done.

And as the shekels poured in on his counter like golden rain, his soul laughed with glee, for in his mind he saw himself rich beyond compare.

But the people grew well no longer.

No more did they repair unto the Doctor with thankful hearts. Instead of returning unto him with praise and thanksgiving as before, they approached his sanctum with lamentation and wailing. And curses were his, instead of shekels.

"What ho," quoth he. "Wherefore am I getting it in my cervical region? Can it be possible that I, even I, have become a 'has been?' Or has my favorite tonic failed me in my old age?" And he made talk with his patients, seeking knowledge whereof they were no better. And after many questionings he learned of the iniquity of the man of Drugs. Then he was wroth, and with voice like the raging wind he poured forth unto the Heavens the crime of the Druggist.

And all the people heard.

Therefore did they meet together and with one accord hastened unto the store of him who had defrauded and cheated them.

And their anger knew no bounds, for they took him out into a lone place and with no unnecessary ceremony *hanged him to a tree.*

Then on his breast was pinned a card on which were written the fateful words —"*Not what he wanted—but something just as good.*"

No more thereafter was substitution known in the land, and the people thereof became well and lived happy ever afterwards.

TO DOCTORS.

Moral—Beware of substituting Druggists if you expect to cure your patients.

TO DRUGGISTS.

Moral—Beware of the wrath of the Doctor and patient on whom you practice substitution.

Summer Diarrhea in Infants.

Abroad, of late years a good deal has been said of the value of tannigen in controlling the stools. Dr. Blackader of Montreal, in the March number of "Progressive Medicine" in an excellent review of the recent literature on summer diarrheas, quotes no less an authority than Escherich, the well-known Professor of Children's Diseases at the University of Graz in Austria, who speaks very favorably of tannigen and claims for it a distinct disinfectant and bactericidal effect. Kraus and Biedert have also written in its praise, especially for chronic intestinal catarrh. It is a tasteless powder, therefore easily administered and is given in doses of 2 to 5 grains four times a day. It is especially useful in cases of follicular enteritis, where local measures are of little avail. Its administration is continued in lessened doses after the acute symptoms have subsided and it is said to hasten convalescence, which is often apt to be tedious. (From an editorial in the Medical News, July 15, '99.)

Doctor! Any poison ivy cases? Salo cures instantly. An absolute specific. Try it. Salo (Tilden) is odorless and non-poisonous. Sample on application.

Medical Department of The Columbian University,

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"Syrup of Figs" is never sold in bulk. It retails at fifty cents a bottle, and the name of "Syrup of Figs," as well as the name of the "California Fig Syrup Co," is printed on the wrappers and labels of every bottle.

CALIFORNIA FIG SYRUP CO., SAN FRANCISCO; LOUISVILLE; NEW YORK.

Therapeutics: Past, Present, and Future.

George F. Butler, M. D., Chicago, Ill.

A great step in the advancement of the science of pharmacy is the accurate estimation of the activity of various drugs by testing them upon living animals. This is known as the physiological assay. A brief description of the method of these physiological tests as given by Dr. E. M. Houghton is interesting. From times prehistoric it has been observed that in fowls, swine, and other animals, as well as man, fed with ergotized rye or with bread prepared from the flour of such grain for a considerable length of time, the poisonous action of the fungus is frequently manifested by gangrene and sloughing of the peripheral parts, as the comb of fowls, ears of hogs, and ears, nose, fingers, and toes of man.

In making the preparations of ergot, the carefully selected crude drug is tested by being fed to roosters, a certain number of grains to a certain weight of fowl. If it is of normal activity, it produces the local effect in the comb and wattles. This drug is then carefully exhausted with the proper menstruum, and the finished product is again tested in the same way. About one-third of the ergot thus tested is found to be inert. If the finished product proves itself below the standard, more of the drug is exhausted with the same menstruum.

The therapeutic importance of the heart tonics—digitalis, strophanthus, and others of the group—is now recognized, and these drugs are universally employed by physicians in their daily practice. We are not generally accustomed to think of the heart tonics as being the most poisonous remedies employed in therapeutics, yet it is true. According to some of the best authorities, the maximum dose of extract of digitalis is about one-half as great as the maximum dose of extract of belladonna; while strophanthin, the active principle of strophanthus, is three times as poisonous as atropine, ten times as poisonous as strychnine, and twelve times as poisonous as absolute hydrocyanic acid. It would be considered dangerous pharmaceutic practice to allow preparations containing atropine, strychnine, or hydrocyanic acid to be sold without first being subjected to careful chemic assay and standardization.

In making a qualitative assay a solution of the crude drug or its active constituent is applied to the laid-bare frog's heart, and the slowed rhythm, the less and less perfect diastole, the increased systole, and finally complete inhibition in systole, are noted. Intravenous injections of such solutions into dogs and rabbits are made with careful observation of the variations in blood-pressure and heart-beats, as shown by graphic tracings reported on the kymograph.

A quantitative estimation by pharmacologic methods is a much more difficult problem. Many series of experiments were necessary in order to decide what method is best for this work. Finally, the most practical method was found to be the determination of the minimum fatal dose on lower animals.

The method of administering the poisons and observing results may be briefly stated as follows: The strophanthin or tincture of strophanthus is dissolved in normal salt solution in such strength that the total quantity to be injected shall not exceed five cubic centimeters. The fluid is injected through the frog's mouth into the abdominal lymph sac. Great care is taken not to puncture the skin, as this will allow a portion of the injected fluid to leak out. After injection, the frogs are placed in wide frog glasses, the plates containing about a quarter of an inch of water. Several series of five frogs each are injected for each sample of the drug to be assayed, the first series to be injected with a drug of known standard strength. The second series is injected with doses varying considerably in size. The third series is injected after the approximate dose of poison has been found from the second series. From the third series the minimum dose is almost surely fixed. A fourth series is finally injected, which fixes the limit of strength very closely. The minimum fatal dose should kill at

Continued on page 180.

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Are Thin as Skin and Do Not Obstruct the Sense of Touch. Price, 50c. per Doz.

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least three frogs out of five. If a less number die, other series are injected with slightly increased doses.

A series of fourteen experiments made with tinctures prepared from different lots of the seed as found on the market showed the fatal dose of the strongest to be .00010 cubic centimeter per gramme of body weight, and of the weakest to be 0.33 cubic centimeter per gramme of body weight. Samples of strophanthin were obtained from three of the best manufacturing chemists in the world. These were supposed to be pure strophanthin, yet one was ninety times as strong as another, the others varying between these limits. The digitalin varies greatly in strength, but much less than strophanthin. Both strophanthin and digitalin are given daily in tablet or pill form, the amount of active ingredient being apportioned by weight—a splendid opportunity for the sudden termination of a favorably progressing heart case should the patient happen to have the prescription refilled from a fresh bottle. The only way that such remedies can be taken with any degree of safety is to have them prepared from stock of known physiological strength.

The drugs assayed by the physiological method are : Ergot, cannabis indica, digitalis leaves, strophanthus seeds, convallaria majalis, and elaterium. *Medicine*, August, 1899.

Treatment of Herpes Zoster.

External Treatment.—In the milder types of herpes zoster the writer has frequently received excellent results from one of the following applications :

R Bismuth subnitrate, 1 drachm,
Petrolatum vel Ungt. Zinci. Ox., 7 drachms.
Apply directly to affected areas thrice daily.

R Salolis, 1-2 to 1 drachm,
Etheris, 1 ounce.
Apply with brush directly to lesions once, twice or thrice during the day.

R Morphiae sulphat., i-ii grains,
Lanolin, 1 ounce,
Apply several times daily.

In applying any of the above mentioned formulae it is especially advisable to see that the parts are well covered and that immediately upon the dressing, pieces of linen are arranged so that friction or pressure does not take place. If care is not exerted to limit the amount of harm that may arise the case may become complicated with suppuration or ulceration, and hence disfigurement even in the most mild of cases.

In cases of extreme degree, where pain is excessive, whether this occur in one type or another, it will be necessary to use the more strenuous measures. In some of these extreme cases the slightest amount of pressure, whether exerted by the clothing or by a camel's-hair brush in applying medicaments, causes the direst distress. In those of especially nervous temperament even close proximity causes tension from fear of touch.

The following may be found serviceable in these types :

R Collodion, 1 ounce.

Apply by camel's-hair brush directly over the lesions three or four, or more, times daily. (Do not remove at each dressing, but apply over former painting.)

R Ichthyol, 4 drachms,
Aquae, 4 drachms.
Paint with camel's-hair brush thrice daily.

In some cases, applying cloths soaking wet with the above application gives a better result. In some very extreme cases the use of ichthyol in full strength every six hours gives the greatest benefit. In cases where pain is excessive the writer has often advised the following with benefit.

R Morphiae, i-ii grains,
Collodion, 1 ounce.
Applied three or four times a day.

R Acetanilid, xv-xiv grains,
Etheris, 1 ounce.
Apply thrice daily.

One of the above-mentioned formulae will give the desired result in almost any case that may present itself, and it is only occasionally that cases arise that they will not relieve. The strength of

Continued on page 182.

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A number of years ago, when the value of Creosote became fully demonstrated, we began the publication of a formula for the administration of Creosote in Maltine. This formula has been employed successfully by thousands of physicians, and we have been urged over and over again to place such a combination upon the market in order that a uniform and properly prepared product could be had under all circumstances.

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is the most eligible and palatable form in which Creosote can be administered. The vehicle—Maltine Plain—is particularly indicated, by reason of its great food and digestive value, in all conditions in which Creosote is so universally employed.

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each may be increased when occasion demands such procedures.

Internal Treatment.—Probably in the milder cases of herpes zoster it may only be necessary to give some slight sedative to the nervous system, such as bromide of potassium, in doses to suit the age and temperament. Often when the patients are somewhat lowered in vitality it may be advisable to give small doses of arsenic, such as three or four drops of Fowler's solution, thrice daily, or one-thirtieth grain of arsenous acid in like doses. In those who are greatly run down and have not the power to withstand discomfort it will often be advisable to use either iron or strychnine, or both, in combination. Quinine, phenacetine and acetanilid may often be deemed necessary in certain nervous people. Other forms of treatment, bearing upon the same direct line, will give similar results. Cantrell, *Md. Med. J.*

The New Method of Administering Creosote.

In the treatment of consumption and other wasting diseases, to maintain the nutrition of the tissue cells and thus keep their resisting power at the highest pitch is the one important factor.

The carbohydrates, being a cheap and efficient form of food make up almost four-fifths of man's every day diet in our climate, and therefore to ensure that the starchy foods are properly digested and assimilated is to largely bring about that most desirable desideratum, the up-building of the patient.

Maltine is a reliable preparation of diastase which is strong in digestive power and can rapidly convert the insoluble elements of the food into soluble forms, so that they are absorbed, and thus the integrity and enrichment of the blood is assured.

It is also well known that phosphorus is a very important part of protoplasm, being always found closely associated with the vital principle, wherever manifested, both in the vegetable and the animal cells.

Maltine being prepared from wheat, oats, and barley is especially rich in phosphates, and the contained phosphorus in this malt preparation is in a stable and permanent form. More than this Maltine increases the appetite and has proved itself to be an admirable vehicle for and adjuvant to many other useful drugs.

Creosote has won its way into therapeutics by real merit. By results it has proven itself to be a most efficient remedy in the treatment of phthisis, and it is the one drug now relied upon to combat the ravages of this disease. Creosote and its cogenors—the members of the guaiacol group—possess decided antiseptic and antitoxæmic action, and prevent or minimize those fermentative processes which contribute so largely to failure of the digestive processes in every chronic, wasting disease.

A combination of Maltine and Creosote can hardly fail to be an efficient and reliable remedy; one especially adapted to the treatment of chronic nervous and wasting diseases; and this combination will add one more to the valuable preparations of Maltine. *Journal of Medicine and Science*, July, 1899.

For Removal of Warts on the Lid.

Almon Brooks tells us in the *Ophthalmic Record* for April, 1899, that there is no remedy equal to fuming nitric acid, especially when applied on a toothpick or sharpened match, for the cure of warts on the lid. The growth is first denuded of its epithelial layer by means of a very sharp knife, when the sharp point of the stick carrying the acid is placed as nearly as possible in the center of the wart, and a boring motion imparted by rolling the stick between the thumb and forefinger. As soon as a smarting sensation is felt the application must be discontinued for the occasion. The process must be repeated (after three or four days), although two applications are usually sufficient when the papilloma is not large.

The advantages of this method are that it is painless, the absence of disfiguration during the treatment, the freedom from interruption of the usual occupation, and the recovery without a scar and usually without leaving a trace of the former site of the growth. It differs from the ordinary application of nitric acid in that the papilloma slowly shrinks and disappears, and is not merely burned way, as in the usual plan of dealing with such growths. *Therapeutic Gazette.*

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SUCH AS PROF. WILLIS G. TUCKER, OF THE ALBANY MEDICAL COLLEGE; PROF. WALTER S. HAINES, OF THE RUSH MEDICAL COLLEGE; PROF. JEROME H. SALISBURY, OF THE RUSH MEDICAL COLLEGE; PROF. JOHN G. SPENZER, OF THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS; PROF. J. W BAIRD, OF THE MASSACHUSETTS COLLEGE OF PHARMACY; PROF. W. C. BENNETT, OF THE WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS; AND DR. WILLIAM D. HORNE, OF YONKERS, CERTIFY THAT MALTZYME IS SUPERIOR IN DIASTASIC POWER TO ANY MALT PREPARATIONS HERETOFORE PRESENTED TO THE MEDICAL PROFESSION, AND WHAT THEY SAY IS BASED ON ANALYSES. WE WILL BE PLEASED TO SEND YOU THEIR REPORTS.

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HAVE FOUND MALTZYME PREPARATIONS JUST WHAT THEY DESIRED IN THEIR PRACTISE, AND ALL FOUR PREPARATIONS, VIZ., MALTZYME (PLAIN), MALTZYME WITH COD LIVER OIL, MALTZYME WITH CASCARA SAGRADA, AND MALTZYME WITH HYPOPHOSPHITES ARE BEING CONTINUALLY PRESCRIBED BY THE LEADING MEN IN THE PROFESSION. IN DIRECTING YOUR PATIENTS TO PURCHASE MALTZYME, BE SURE TO INSIST UPON THE PROPER PRONUNCIATION OF THE WORD, I. E., MALTZYME (THE Y AS IN ENZYME). IF THIS IS NOT DONE, YOUR PATIENT MAY HAVE SOME ANTIQUATED PRODUCT HANDED TO HIM MERELY BECAUSE IT IS ON THE DRUGGIST'S SHELF. MALTZYME, BEING A NEW PRODUCT, WILL NOT BE FOUND IN ALL DRUG STORES. SEE THAT YOUR PHARMACIST PUTS IT IN FOR YOU.

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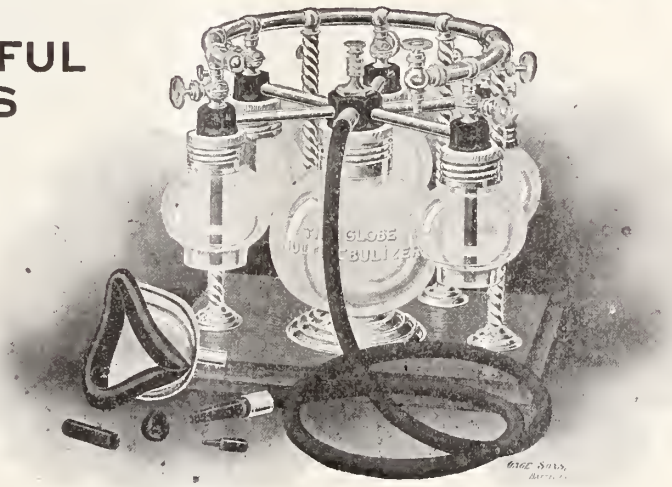

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Dose—One fluid drachm three times a day.

Peacock's Bromides for All Forms of Congestion.
Definite Strength. Absolute Purity.
Dose—One or two fluid drachms, in water, three or more times a day, as indicated.

PEACOCK CHEMICAL CO.,
112 N. Second St., St. Louis. 36 Basinghall St., London.

Treatment of Incontinence of Urine in Children.

(Thomson, "Clinical Examination and Treatment of Children.") Much more benefit can be gained from the use of sedatives than either stimulating or tonic remedies. Of course, any physical cause, as phimosis, should be removed, and the child should not be allowed to drink anything after five or six o'clock in the afternoon. He should be awakened at eleven or twelve o'clock, and made to empty his bladder. Scolding or punishing the child is of no avail, and should not be done. Belladonna is the most valuable remedy, and should be given in large doses, so that the pupils should be moderately dilated and the throat be somewhat dry at bedtime. Twenty or 30 drops of the tincture may be given to a child four or five years of age at bedtime, and to an older child, from six to ten years of age, 30 drops may be given in the afternoon, and the dose repeated at night. If necessary this dose may be gradually increased up to a dram. If this should fail to prevent the wetting of the bed, the fluid extract of ergot, 20 drops three times a day, often gives good results. Tincture of nux vomica often is efficacious, especially when used in connection with belladonna. *Medical News.*

Pyoktannin (Blue) for Ophthalmia Neonatorum.

Cuibertson.—There has been so far no case of the use of pyoktannin in purulent ophthalmias reported.

The advantage of pyoktannin in ohpthalmia neonatorum or gonorrheal ophthalmia of the adult is that it is bland and at the same time a powerful germicide. Nitrate of silver produces pain and great swelling of lids. The attendant may use the solution whenever pus makes its appearance about the eyes. The proper strength is 1-2000. *J. Eye, Ear and Throat Diseases.*

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A diminution in the number of red blood cells and a retrogade alteration in their structural integrity. Such are the morphological changes in the blood made manifest by the microscope in cases of ANÆMIA from whatever cause.

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LABORATORY,
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BROMIDIA IS A REST-MAKER FOR RESTLESSNESS. IT GIVES CONSISTENT NERVE REST, NERVE CELL REST, REST OF THE NUCLEUS OF THE NERVE CELL. IT DOES NOT LESSEN THE SUPPLY OF BLOOD TO ANY ORGAN OF THE ECONOMY, AS THE BROMIDES ARE SURE TO DO. IT IS A HYPNOTIC.

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DIGESTED IRON .....

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THE

NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., SEPTEMBER, 1899. No. 4.

Leading Article.

*DIET IN TYPHOID FEVER.

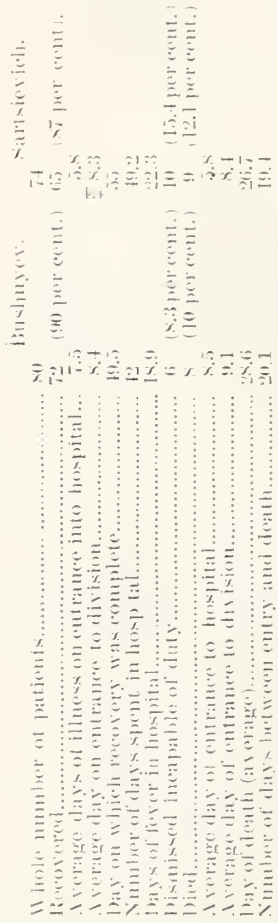
W. S. Thayer, in *Progressive Medicine* for March, 1899, has prepared such an excellent summary of recent studies on this subject that we reproduce nearly the whole of his article.

Bushuyev makes an interesting appeal for the more liberal feeding of patients with typhoid fever. He enters at length into the literature concerning the diet in typhoid fever. Most of those who object to liberal feeding base their objection not so much on the insufficiency of the digestive juices as on the danger of hemorrhage or perforation; but the changes resulting in perforation rarely appear suddenly—they come on gradually. They are so distant from the stomach that by the time substances, even though hard to digest, reach these areas, they are so far changed that one can hardly imagine that they could actually injure the intestine. Wholly indigestible substances, such as fruit seeds or skins, might injure the gut, but they are, as a rule, so far rolled up in mucus or intestinal contents as to be harmless. In autopsies on cases of typhoid on the thirtieth day or later, in patients who had been liberally fed, the intestine was in the same condition as under ordinary typhoid diet. One never hears of perforation of a tuberculous ulcer due to food. The cause of perforation is the nature of the ulcer and not the character of the food. Bushuyev knows of nothing to support the view held by some, that injury to the intestinal walls by solid food might provoke a reentrance of the bacilli and an increased frequency of relapses. (On the other hand, we know that the organism is present in very small numbers, or, indeed, absent from the intestinal tract.—W. S. T.)

In the year 1895-1896 Bushuyev arranged with his colleague, Dr. Sartsievich, a skeptic with regard to the advisability of liberal feeding, to divide all patients who entered the hospital into two series, one of which should come under Bushuyev's care, one under that of Dr. Sartsievich. The patients of Dr. Sartsievich received only milk, as much as two liters in the twenty-four hours, and one or two eggs soft boiled or in Stokes' mixture. On the other hand, Bushuyev's patients were allowed, usually, 715 grammes of white bread, 170 to 180 grammes of boiled meat, a cutlet, and soup. If possible, there was

*Medicine, Detroit, Mich. 1899.v, 409.

given in addition a small quantity of supplementary milk and egg. The patients of both departments were allowed tea, wine and water. The following table shows the result :



	Bushuyev.		Sartsevich.	
Whole number of patients	80		74	
Recovered	72	(90 per cent.)	65	(87 per cent.
Average days of illness on entrance into hospital	4.5		5.8	
Average day on entrance to division	8.4		8.3	
Day on which recovery was complete	19.5		19.2	
Number of days spent in hospital	12		13.3	
Days of fever in hospital	18.9		19	(15.4 per cent.)
Dismissed incapable of duty	6	(8.3 per cent.)	9	(12.1 per cent.)
Died	2	(10 per cent.)	2	
Average day of entrance to hospital	8.5		8.8	
Average day of entrance to division	9.1		8.1	
Day of death (average)	28.6		26.7	
Number of days between entry and death	20.1		19.1	

The figures, though small, speak decidedly in favor of liberal feeding, especially inasmuch as the cases coming under Bushuyev's care entered the hospital at a later period of their illness. The author especially emphasizes the fact that though his patients received a relatively liberal diet, yet the conditions of a military hospital rendered it impossible to give them anything like a proper regimen.

From the table of supplies open to him Bushuyev devised the following plan for feeding typhoid patients, which he has carried out for two years :

7 A. M. Tea with a roll.

8 A. M. 400 Cc of soft (liquid) oatmeal, barley, or wheat porridge, with butter.

9 A. M. One or two boiled eggs, soft or hard, as the patient desires.

10 to 11 A. M. A glass (200 to 220 Cc) of milk with a roll, one-half a cutlet, and a bit of broiled meat (160 to 168 grammes).

12 to 12.30 P. M. A plate (220 Cc) of chicken soup or a bowl of ordinary soup, sometimes with a bit of chicken from the soup and a small cup of kisel (a sort of sour jelly) ; rarely, a little, preserved fruit.

3 P. M. Tea with a roll.

6 P. M. A cup of chicken or beef soup ; semolina pudding or milk ; a bit of chicken.

8 P. M. Milk with a roll.

During the night coffee or tea with milk, two or four times ; coffee with cognac.

For dinner and supper the white bread may be replaced with black (with the crust), and the soup by a thick wheat gruel. Many patients prefer the boiled meat to cutlets, and the ordinary soldier's soup to hospital soup and gruel. The milk is generally boiled ; occasionally it is given in the form of junket. As beverages, the patients were allowed cold water, boiled or unboiled, cranberry juice, milk of almonds, and small amounts of beer. The cranberry juice was particularly grateful to the patients. In addition, all patients received one to three ounces of wine in the morning, and every two hours sixteen cubic centimeters of Stokes' mixture.

Patients when quietly sleeping were not awakened either for food or medicine.

As a result of his experience the author says: "Not allowing myself to jump at rash conclusions, I will restrict myself to this alone, that the outcome and course of typhoid fever with a hospital diet as general as possible is not in the least worse than with a restricted diet."

During the year 1897, under this diet, the author lost 26 out of 318 patients, or 8.2 per cent.

During the ten years 1888 to 1897, the deaths from typhoid fever at the military hospital at Kiev varied between 10 and 19.3 per cent; the mean for the ten years was 12.4 per cent—358 deaths in 2887 patients. Thus, in 1897, with a mixed diet, the death-rate was materially less than for the ten years previously.

Under this regimen the general condition of patients is incomparably better than when kept upon an exclusively fluid diet. The common complaints are scarcely heard. At breakfast, dinner, and supper the patients are uncommonly wide-awake; even those who are very ill sit up in bed, beg for food, and eat with much satisfaction; only a few have to be fed by nurses. If one observes the patients at meal-times he wholly forgets that these individuals are seriously ill, with temperatures above 39° C. The military authorities are amazed on visiting a typhoid ward at the time of breakfast or dinner, "as they see almost no typhoids." The observation of the late Prof. M. T. Chudnovsky, that the typhoid state disappears under a full diet, is confirmed. This condition was seen chiefly in patients transferred from other wards, where they had been on exclusively liquid diet. During the first hours in the ward the patient lies in a motionless condition, failing to answer questions and refusing food. But if one succeed in some way or other in persuading him to eat a bit of meat, or cutlet, or an egg, he immediately begins to show some interest in the surroundings. In a few days, often within a day, there is no trace of the typhoid condition. Unfortunately, it is impossible to persuade all typhoid patients to eat, at least what is at one's disposal in a military hospital. Attempts at forced feeding cause vomiting. Every care should be directed toward stimulating the patient's appetite and to avoid disgusting him by what is brought before him.

It is a different matter when the patient enters in an unconscious condition; then a liquid diet should be given—as much as he can take without vomiting. If it be impossible to feed him by the mouth, then he should be fed through the nose with a tube. The appetite lasts usually to the end of the illness; its diminution or disappearance is a grave sign.

The tongue and lips remain in a relatively good condition. There are no unpleasant gastric or intestinal symptoms. The bowels are often constipated; pea-soup evacuations are met with only in cases fed mainly on milk and bouillon.

Intestinal hemorrhage in feeding with a solid diet is not in the least more frequent than on an exclusively liquid diet. In the parallel investigation with Dr. Sartsievich, there was not a single case of intestinal hemorrhage among the author's patients. In 1897, among 318 patients, there were four instances of hemorrhage—that is 1.7 per cent—while according to Homolle it occurs in 4.65 per cent; according to Barth, in 2 per cent; according to Griesinger, in 5.3 per cent; according to Murchison, in

3.77 per cent; according to Liebermeister, in 7.3 per cent; according to Stecher, in 10 per cent. Of his four patients with hemorrhage, two died; the other two recovered, notwithstanding the fact that in one of them the hemorrhage was abundant and protracted. It is interesting that of these four patients, only one received a solid diet; two entered in so serious a condition that they had to be subjected to forced feeding—*i. e.*, only a liquid diet; finally one, a military physician, was fed throughout the course of his febrile stage, which lasted six weeks, only upon bouillon, milk, coffee and tea with milk, because he feared solid food.

Perforation, in the last two years, has occurred only once in 509 patients—*i. e.*, in 0.19 per cent—while other authors estimate it from 1.25 to 3.04 per cent.

General peritonitis (non-perforative) was met with twice. One patient was admitted with a beginning peritonitis, but in the other it arose in the hospital. As in the case of perforation, so the peritonitis in the second case arose at a time when the patient was already being forcibly fed with liquids. Otitis media and parotitis were rare, and no bed-sores occurred.

The loss of weight was less than in patients fed on a more restricted diet. The general condition was so good that the patients preferred, as a rule, to walk to their tubs and to the closet. "Long before the end of the fever they get out of bed, and there is much difficulty in making them lie down. In summer they go out into the garden almost upon the first day of the afebrile condition. The simple truth is that for the patient, as well as for the healthy man, that diet is best which pleases him most. It is not necessary to go to any trouble that the food may contain a certain quantity of albumin, of fat, and of carbohydrates, but that it shall be tastefully prepared and may excite the appetite. Every effort of the physician who has under his care severely ill patients should be directed toward the stimulating of the latter by the, so to speak, natural means, namely, food. In the absence of appetite one cannot hope for much success, even from forced feeding. But if one succeed in exciting the patient's desire for food, the privileges and advantages of a mixed, liberal diet become quickly evident. Whoever once attempts to feed his typhoid patients will never repent it, and will not meet with as many severe forms of typhoid as are observed under a restricted diet—for instance, the so-called hemorrhagic forms seen by Dr. Sartsievich in two patients."

While one cannot help feeling that this is the article of an enthusiast, yet both the reasoning and the figures are such as to make us reflect. Is it not more than likely that many cases of typhoid fever suffer from too restricted a diet? Bearing in mind the long course of fever through which the patient must pass, the dangers to which he is exposed, not only from exhaustion and the accidents peculiar to typhoid fever, but especially from the various secondary infections to which he is so easy a prey at the end of his long period of fever and fasting, our main object should be to keep up his general nourishment by every means in our power. Obviously, if a more liberal diet than that afforded by the purely liquid regimen could be assimilated, the patient's strength would hold out materially better. In diphtheria or pneumonia or febrile tuberculosis do we not make every effort to induce the invalid to take as much as he

can bear of a simple, easily absorbable, and nourishing diet? And yet in typhoid fever we are restrained by a vague fear that any departure from the customary regimen is, for some reason or other, dangerous. What ground have we for this fear? The ordinary answer is the quotation of a case where, after a long course of fever, with a much restricted diet, some indiscretion has produced a sudden rise of temperature with alarming symptoms. An indiscretion in diet may produce such symptoms in any condition of severe physical exhaustion, but the reviewer has never seen anything to suggest that this is more common in typhoid fever than in any other similar condition.

And those observers in recent years who have intelligently adapted the diet to the patient have only good reports to make. Such observations as those of Shattuck and Bushuyev are the best proofs that there is no special condition in typhoid fever which contraindicates liberal feeding.

Bearing in mind the frequency of intestinal lesions, we should of course avoid substances which leave an undue residue, but that the general course of the case would improve, that convalescence would be quicker, that lives would actually be saved, if, as Shattuck says, we paid more attention to our treatment of the patient than to that of the disease, as such, the writer is convinced.

The amount and nature of the nourishment given to each case must, of course, depend largely upon individual circumstances—the mental condition of the patient, the appetite, the character of the dejecta, the abdominal manifestations. Every care must be taken not to disgust the patient, and to avoid the development of unpleasant gastric or intestinal symptoms, for, as has already been said, our main object should be to keep up the strength; but in most instances there is probably no reason why the diet in typhoid should differ essentially from that in any similar infection. To quote from the excellent article of Dr. Shattuck:

"I would not be understood as advocating an indiscriminate diet. My plea is simply for treating the patient rather than the disease; for feeding him with reference to his digestive power, rather than solely or mainly with reference to his fever; for the view that the danger of accidents from the local intestinal ulceration is not increased by allowing him to partake of articles which leave no irritating residue, and which cautious trial shows are digested without disturbance or discomfort. At one end of the scale are the cases with such irritability or weakness of the stomach as to lead to the unfortunate term gastric fever, or those with pronounced diarrhea or indigested food in the stools; at the other end are those more numerous cases with clean tongue and a desire for food. Between the two is every gradation. The life of the former may depend on the skill and ingenuity of the doctor, assisted by the intelligent devotion of the nurse. The comfort and the duration of disability of all others may be materially modified for good by careful study and wise individualization of our cases. A long list of permissible articles from which selection can be made for different cases, and for the same case at different times under varying circumstances, can be given. That which I append makes no claim to completeness, but is meant merely to be suggestive and illustrative:

"*Typhoid Diet.*—1. Milk, hot or cold,

with or without salt, diluted with lime-water, soda-water, Apollinaris, Vichy; peptogenic and peptonized milk; cream and water (*i. e.*, less albumen), milk with white of egg, slip buttermilk, kumiss, matzoon, milk, whey, milk with tea, coffee, cocoa.

"2. Soups: beef, veal, chicken, tomato, potato, oyster, mutton, pea, bean, squash; carefully strained and thickened with rice (powdered), arrowroot, flour, milk or cream, egg, barley.

"3. Horlick's food, Mellin's food, malted milk, carnipeptone, bovinine, somatose.

"4. Beef juice.

"5. Gruels: strained corn-meal, crackers, flour, barley-water, toast-water, albumin-water, with lemon juice.

"6. Ice cream.

"7. Eggs, soft-boiled or raw, egg-nog.

"8. Finely minced lean meat, scraped beef, the soft part of raw oysters, soft crackers with milk or broth, soft puddings without raisins, soft toast without crust, blanc mange, wine jelly, apple sauce, and macaroni."

Correspondence.

WASHINGTON, JULY 31, 1899.

To the Editor of The National Medical Review:

Your editorial in the July number of the REVIEW is, in my judgment, unjust to the Medical Society, while some of the statements made are not borne out by the facts.

Conceding that the average attendance of 75 members at each meeting is smaller than it should be, I qualify the admission by saying that the Medical Society of the District of Columbia is the best attended Medical Society in the country which meets weekly, and that those who attend regularly show their good judgment and appreciation of the matters presented to the Society by being present.

The statement that there is "a lack of variety in the character of the specimens and papers presented and a tendency toward repetition and monotony in the opinions expressed in the ensuing discussion," because of "the small attendance and the still smaller number of active participants" in the discussion, is strangely at variance with the facts. I state, without fear of successful contradiction, that in no medical society in this country is there a greater variety of subjects and specimens presented, while the character of the papers read will compare favorably with those read elsewhere.

Here is a list of papers and specimens for the present year to June 1—18 meetings:

Papers and Cases

Case of paroxysmal sneezing.

Puerperal sepsis treated with antistreptococcus serum.

Symphyseotomy.

Bermuda as a winter resort; illustrated.

The mosquito and the malarial parasite.

Report of the bacteriological examination of the milk from the Pasteur Laboratory, 1898.

Lay suggestions on medico-military affairs.

A year's work in intubation.

The bronchites and pleurites of uric acid.

Has mankind a rudimentary sixth sense in process of evolution?

Chronic pemphigus of the larynx.

Surgical cases in which the Rœntgen ray was used.

Influenza otitis.

Preparing for the knife in the European hospitals.

Case of abdominal hysterectomy.

Effects of modern fire-arms in war: Gunshot wounds in the Spanish-American War illustrated.

Lumbar puncture.

Medico-legal aspects of railroad injuries.

Cod-liver oil.

Can the excessive mortality from acute pneumonia be reduced?

Specimens.

Typhoid fever and Texas cattle fever. Tuberculosis. Tubercular vasa deferentia. Tuberculosis in cattle. Edema in hemiplegia. Early degeneration of the pyramidal tracts as shown by the Marchi methods. Sarcoma of the brain. Porencephalus. Specimens illustrating disease of the lungs. Specimens illustrating diseases of the kidneys. Specimens from Coroner's cases. Carcinoma of the gall bladder. Cerebral hemorrhage. Cerebrospinal meningitis. Renal cyst. Fused kidneys. Abscess of the frontal sinus, etc., resulting in meningitis and death. Contracted kidneys. Uterus from a case of abortion. Cerebrospinal meningitis. Gumma of the brain. Fibroid tumor. Surgical instruments. Meckel's diverticulum. Croupous pneumonia. Omental tumor. Multiple abdominal tumors. Prostatic tumor. Cirrhosis of the liver. Septic pericarditis and nephritis.

One would suppose that the above would furnish sufficient variety to suit the most fickle taste. When I add that these papers and specimens were presented by some of our best physicians, I cannot understand how the work of the Society can be disparaged without at the same time implying lack of confidence in our best men.

Very respectfully,

THOMAS C. SMITH, M. D.

Chairman Essay Committee,

1133 12th St., nw. *Medical Society.*

Editorial Note.

The editors of THE REVIEW have, for many years, been members of the Medical Society of the District of Columbia, have taken an active interest in its welfare and, both at its meetings and in committee, have done whatever duty devolved upon them.

The editorial referred to in the above communication was not intended in criticism of the Medical Society nor of the Chairman of the Essay Committee, for whom as an officer of the Society and as an individual the editors have the highest esteem. Its sole purpose was to consider whether the cause of scientific medicine in Washington could not be still further advanced by concentration of effort on the part of physicians, and whether some form of consolidation of the various medical societies of the District would not conduce to this laudable end. Upon this point the editors would like to hear from the local readers of THE REVIEW.

THE NATIONAL MEDICAL REVIEW,

EDITED BY

GEORGE W. JOHNSTON, M. D., and THOMAS E. MCARDLE, M. D.,

AND

THE MILITARY SURGEON,

A SUPPLEMENT.

OFFICE: 1408 Twenty-first Street, N. W.

WASHINGTON, D. C., SEPTEMBER, 1899.

Editorial.

THE PHYSICIAN AND THE NEGRO PROBLEM.

The future of the negro depends upon the negro himself. As long as he enjoys the rights of full citizenship, it is possible to guide but not to drive him. Certain of his inherent traits may be repressed by the law, others of them encouraged by society; but it is necessary that he work out his own salvation. The duty of guiding him in his career, of moulding and shaping him to fit into his proper place in the community, lies with leaders of his own race; and, as they appreciate and perform this duty, so will the result be good or bad.

It should be recognized at the start that the blacks, after ages of ignorance and serfdom, cannot at a single bound attain the plane of civilization occupied by the whites. No race in the history of the world, however stalwart and gifted, has developed from savagery to culture except through a slow and eliminative process of evolution. Each society at the beginning is occupied solely in the maintenance of life, in warring with nature and its enemies. Gradually its position becomes more stable; its organization more thorough; agriculture appears and the mechanical arts. Through these stages it may finally reach a high grade of intellectual and cultural development. As in the child the senses are exercised and educated before the higher faculties of the mind; and the greatest races of thinkers are those that have excelled and do excel in the magnitude, variety and intricacy of their handiwork.

The negro race in this country cannot remain stationary and in the condition it occupied when freedom was given it; and it is equally impossible, after a few years of equal rights, to compete with the whites in business or professional life. As all other races, with few exceptions, have done, it must advance; but it must advance *as* they have done in the prescribed manner and by toilsome steps.

If this be true, it would seem as if the public school education now given negro youth of both sexes is theoretically unphilosophical and practically worse than useless. It is solely devoted to the development of those faculties of the mind with which this race is most poorly gifted; it ignores those traits

which are of the greatest promise ; it tends to encourage rather than inhibit the outcropping of its physical weaknesses ; it wastes many years during the fleeting plastic and formative period of youth, and fits the individual receiving it for absolutely nothing in the world. He becomes dissatisfied with his surroundings; he acquires habits which are a drag upon him ; is fond of pleasures which he has not the means to gratify, and unless he at once retrogrades and undertakes some form of unskilled, uncertain, poorly paid labor, or is taken care of by proud but misguided parents, he will starve.

We do not decry the value of education. It makes every man and woman a better man and woman if it be of the proper kind. But it must be suited to the individual ; it should prepare him primarily to take care of himself and earn his own living; to take his place in society ; and with independence and the knowledge of his ability and strength, comes that self respect which ennobles the humblest. Because the present method of educating negro youth results in achieving none of these things ; because it is adapted to teach only that which is of no utility ; because it dissatisfies him with the position he occupies and prepares him for nothing better; in a word, because it attempts to avoid or skip that stage of development through which the negro race, like all other races, *must* pass—it should be abandoned and a start taken further back.

We do not deny that individuals, a few of them, have made considerable advances. We do not deny that in many respects the condition of the whole race has improved somewhat ; but it has opened up few new fields of endeavor; and when we look at the vast army of boys and girls who attend the higher grades of our public schools we may well wonder what is going to become of them.

The one great leader, the greatest friend of his own race today—Booker Washington—should have the support of all thinking men, be they black or white. It is in his way only that the negro can be made useful and independent now and be uplifted in the future. And this, as we have said before, is because the negro *must* go through every stage of his appointed evolution and can avoid none of them. The skilled trades are open to every man. The negro may be lazy, he may lack originality and creativeness ; but he is patient and imitative and can be quickly taught to use his hands.

To all physicians, and particularly to those intelligent and public spirited professional men of negro blood in this and other cities, these questions are of vital interest. To aid the negro in becoming self-helpful, self-respecting and thrifty would curtail crime, diminish the large mortality among the blacks, and limit the spread of infectious diseases within the whole community.

We believe that negro physicians have within their hands the greatest power to do good to those of their own color. The ministers too may be of service but not until they become less theatrical, less vain of applause, less sensational. Emotional exaltation, the dread of future agonies and glib talk of holy things will not curb but foster the passions that beset the race, degrade rather than uplift it.

The President of the American Electro-Therapeutical Association, Dr. F. B. Bishop, cordially invites the members of the medical profession of Washington to attend the meetings (and take part in the discussions) of this Association to be held in this city September 19, 20 and 21, 1899. Willard's Hall will be the headquarters of the Association.

Notices and Reviews.

THE DISEASES OF THE NERVOUS SYSTEM. By Dr. Ludwig Hirt. New York. D. Appleton and Co. 1899.

This book made such a favorable impression when it first appeared in this country six years ago, that it scarcely seems necessary to say anything about it except to note that the second edition is an improvement upon the first. As Dr. Osler says in his introductory note, the fact which makes this work of value to the teacher, the student, and the practitioner is the graphic description of the anatomy and symptomatology of the different diseases. Where all is so good it is invidious to select, but the chapter on tabes is an illustration of Prof. Hirt's lucid and thorough treatment of his subject. An attractive aspect of the work is the excellent character of the illustrations, which, as they are in great part original, form a pleasing relief to the hackneyed cuts which have for so long passed from book to book in English works. Dr. Osler adds that Prof. Hirt is a safe guide in the highways and byways of neurotherapeutics as he pursues the middle way in the important question of treatment, neither displaying the pessimism which too many maladies of the nervous system would seem to justify, nor an optimism so flagrant as to savor of quackery.

TEXT-BOOK OF OPHTHALMOLOGY. BY Dr. Ernest Fuchs. New York. D. Appleton and Company. 1899.

Dr. Duane, the authorized American translator of this valuable text-book, has availed himself of the seventh enlarged and improved German edition to present us with a second American edition. The popularity of the book with the German profession may be estimated from the fact that five new editions have been published in the last seven years. Each of these has been characterized by the addition of important new matter and by the thorough revision of the old. According to Dr. Duane this is especially the case with the last or seventh edition from which this second American edition is taken. For in addition to the merits of lucidity, judicious treatment of the subject, and excellence of proportion and balance that have always characterized Prof. Fuch's treatises, this new edition bears everywhere the marks of the most thorough revision, of additions and corrections, bringing the book up to date in all its parts, so that it presents an excellent summary of ophthalmological science as we know it today. The translator has thought it proper to insert two new sections; one upon heterophoria, and the other upon the use of homatropine and other cycloplegics and the general subject of the correction of refractive errors.

AN EPITOME OF THE HISTORY OF MEDICINE. By Roswell Park, M. D. Second edition. The F. A. Davis Company. Phila. 1899.

It is not remarkable that a second edition of this book should be called for within a year after the appearance of the first for the work is unique in American medical literature. Professor Park's wonderful industry is well known to the profession and commands its highest admiration. But the doctor's trend of thought is not in the line of history. He has not been properly educated in the philosophy of history a study which so broadens the intellect that it takes in a much wider scope of action than the mere present. The true historian early learns that "tempora mutant et in illis nos mutamur." He does not criticize one century from the point of view of a later one. In writing the history of our times he will not dilate on the judicial procedures of France from an English or American standpoint. Though so thoroughly different, one cannot have all that is good and the other all that is bad. Dr. Park is hampered by prejudices which a broader mind and a fuller study of philosophy would have obliterated. The author has added a supplementary chapter on "Iatro-theurgic Symbolism," but why he has done so and why he considers it germane to the general subject of the book surpass comprehension. The story of phallic worship is well known to all who have made any study of religion and we fail to account for Dr. Park's having chosen.

the subject for an "Annual Oration," except upon the hypothesis that he had suddenly become aware of the fact that such a thing as phallic worship had existed (indeed exists today) and being struck by the novelty of the thing, thought he had discovered a mare's nest. In the chapter which he calls "A Historico-Critical Supplement," he gives assertions for facts and draws unwarranted conclusions from mistaken hypotheses Dr. Park is a surgeon and pathologist of national reputation but as an historian he is out of his depth. The sutor ultra crepidam is still a good piece of advice.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Tenth session. Edited by Dr. Floyd M. Crandall. 1898.

This volume contains the papers which were read at the tenth annual meeting in Cincinnati, June, 1898. They have all been published in the journals and were well received by that part of the profession specially interested in the diseases of children. Dr S. S. Adams has an article in this volume on Irrigation by Submersion in the Treatment of Empyema and Dr. G. N. Acker reports Death from Haemoptysis of a Child aged Three Years, and Fatal Haemoptysis in an Infant Two Years old.

THE MINERAL WATERS OF THE UNITED STATES, AND THEIR THERAPEUTIC USES. With an account of the various Mineral Spring localities, Means of Access, etc. By James K. Crook, A. M., M. D., Adjunct Professor of Clinical Medicine and Physical Diagnosis at the New York Post-Graduate Medical School, etc. In one octavo volume of 580 pages. Cloth, $3.50, net. Lea Brothers & Co., Philadelphia and New York. 1899.

The medical profession and the laity will be equally interested in this, the first work which gives an authoritative and practical knowledge of the mineral waters of the United States. European nations have appreciated the health and wealth giving powers of their natural waters, but Americans have yet to learn that their own country contains the close counterparts of the best foreign springs, and that the American spas compare favorably with the most highly developed European resorts in charm of scenery and surroundings and in facilities for comfort.

A complete and discriminating work on this subject has accordingly been distinctly needed. In the preparation of this volume every source of information has been covered. The immense mass of material has been reduced to usable form, and it is believed that the physician will find in this volume by far the most comprehensive and practical account of the subject which has ever been written. It includes all the principal springs in use today. Every variety of mineral water is represented and the essential considerations indicating the therapeutic uses of such waters are clearly given. The prescription of such remedial agencies is often the last resort of the physician, a fact establishing their admitted superiority to drugs in properly selected cases. Still more efficacious would be the earlier and discriminating use of appropriate waters, and it is the object of this work to afford all knowledge necessary to this end.

Dr. Médéric Gérin-Lajoie, an American surgeon resident in Paris, has opened a bureau of information at No. 21 Rue de l'Ecole de Médecine, where visiting physicians may obtain information "as to what hospitals should be seen; points about the different clinics, what professors should be consulted and libraries visited—in short how to make a visit to France profitable in the way of availing oneself of all that Paris affords in medical and scientific knowledge." Letters asking for information will receive attention. Office hours, Tuesdays, Thursdays and Saturdays from 1 to 3 o'clock. There is no fee for the services of this Bureau.

W. B. Saunders has in press and will soon publish: The International Text Book of Surgery. Edited by Dr. J. Collins Warren. Heisler's Embryology. Kyle on the Nose and Throat. Pryor on Pelvic Inflammations. Abbott on Transmissible Diseases. Jackson on Diseases of the Eye.

Progress of Medicine.

Surgical Treatment of Incontinence of Urine in the Female.

Flouquet (*Jour. des Sci. Med. de Lille*, May 20, 1899) describes a new method of treatment of incontinence of urine in women. The plans previously proposed have been expected to accomplish their object by constriction of the urethra or deviation of its canal. Schultze resected an oval piece of the urethra from the neck of the bladder to within half an inch of the meatus. The wound was closed with seven or eight sutures. Edgstroem performed the same operation, but avoided the mucous membrane, because if the suture did not hold, the vaginal fistula made the condition of the patient far worse than before. Franck modified Schultze's operation by taking out two lateral ellipses and suturing in such a manner that the central portion of the mucous membrane was crowded into the lumen of the urethra, like a hypertrophied third prostatic lobe. Desnos tried to constrict the posterior portion of the urethra by passing a thread around it, but the results were inappreciable.

In 1880 Pawlik began a series of attempts to cure incontinence by approximating the walls of the urethra, and changing the direction of its lumen. Anterior operations were found to give rise to fistula. Guersuny planned to twist the urethra on its long axis, and by increasing the resistance to the flow of water, prevent incontinence. These two plans have been altered and combined by different operators, and in some instances with considerable success. Blech tried to increase the pressure on the external meatus, by making a vertical incision in the skin on either side of it, and suturing the wounds transversely. This operation can be performed under cocain, and can not well make the condition of the patient worse even if it fails to accomplish its object. Albarran reported the cure of incontinence by separation of adhesions between the bladder and uterus. Other surgeons have claimed to cure it by the simple division of cicatricial bands on one side or the other of the urethra or neck of the bladder.

Fischer's operation, which is the new one described by Flouquet, is a liberation of the meatus laterally and inferiorly. An incision is made along each side of the meatus and prolonged for more than an inch into the vagina. Then a strip of mucous membrane half an inch wide is resected from the other side of each of these incisions. The urethrovulvovaginal band is divided and the part of the hymen or its remains, corresponding to the operative field, is resected. The lateral wounds are then sutured separately and a strip of gauze is inserted between them to prevent any possible adhesions between the right and left suture lines, and the vagina is filled with gauze. The patient is catheterized for twenty-four hours to avoid contamination of the wound, and is kept in bed three days. The tampons should be inserted daily for three or four weeks and the cicatrization carefully watched during this period. The results are said to be most satisfactory. *Medical News*, N. Y., 1899, lxxv, 175.

Some Early Signs of Consumption.

The relative value—diagnostic and prognostic—of certain signs and symptoms which herald the onset of pulmonary consumption, I can do little more than name a few.

The so-called "tuberculous red line" along the gums may mean much or little. Its absence encourages; its presence, on the other hand, may be due to other causes than tuberculosis. I have seen it in the neighborhood of carious teeth, or where "tartar" incrusts the crown of a tooth. Its diagnostic value is thus qualified.

Clubbed finger-tips are common to phthisis with many other wasting diseases or conditions which interfere with nutrition, such as valvular or other heart affections.

Morning sickness and want of appetite for breakfast are common forerun-

ners of consumption. To the same category belongs distaste for fatty foods and capricious appetite. Myotatic irritability of the pectoral muscles and of the platysma myoides is a valuable sign. So also is tenderness on pressure over an apex of a lung which is the seat of commencing tuberculous deposition.

Interrupted inspiration (jerking, or cog-wheel, inspiration) is a sign of doubtful value. It is so often present in nervous youths or in nervous and chlorotic girls that its diagnostic importance is largely discounted.

Among the earliest physical signs of phthisis we should include lessened movement of the chest wall (expansion), an abnormally clear percussion note, deficient vesicular breathing, relative or absolute intensity of the heart sounds over the affected apex, and relative or absolute intensity of the pulmonary second sound.—Dr. John W. Moore, *British Med. Jour.* (*Medical Standard*, Chicago, 1899, xxii, 287.)

Early Diagnosis of Malignant Disease of the Gastro-Intestinal Canal.

Stomach and Pylorus.—With reference to the stomach and pylorus Einhorn has suggested the following rules upon which to base a positive diagnosis of cancer :

1. If particles of tumor are found (in the wash water or in the tube) which under the microscope reveal the characteristic picture of a malignant growth.

2. The presence of a more or less large tumor with an uneven surface, belonging to the stomach and associated with dyspeptic symptoms.

3. The presence of a tumor associated with frequent hæmatemesis.

4. Constant pains, frequent vomiting, ischochymia, emaciation—all these symptoms being quite permanent and not extending over too long a period of time (six months to a year.)

5. Tumor and ischochymia.

6. Emaciation, ischochymia, presence of lactic acid.

7. Constant anorexia and pains, not yielding to treatment, accompanied by frequent small hæmorrhages of coffee-ground color.

III. *Small and Large Intestines.*—For the small and large intestines the following points will prove of service in making the diagnosis of cancer :

1. If by abdominal or rectal palpation a tumor can be detected which is situated in the small or large bowel, and accompanied by symptoms of cachexia and disturbances of defæcation.

2. The presence of a tumor as just described and the discovery of small particles of the neoplasm in the evacuation giving microscopically the appearance of a cancerous growth.

3. Gradually increasing disturbances of the bowel for a few months in a heretofore healthy person, accompanied by cachexia and symptoms of a beginning or already developed stricture of the bowels, and the presence of a small particle of growth in the stools giving, as above, microscopically, the picture of cancer. *Medical Record*, N. Y., 1899, lxx, 162.

Treatment of Pyelitis.

Albarran (Paris) has, during the last year, had under his care six patients suffering from unilateral pyelitis. None of these cases had febrile symptoms. He has in these cases, with the aid of cystoscopic catheterism of the diseased ureter, practiced irrigation of the renal pelvis. He uses first boric acid and solution, then silver nitrate solution 1-1000.

Three of these cases of pyelitis had a very purulent urine, a creamy pus, no renal retention. In these three cases the improvement after 5, 7, and 11 lavages of the kidney pelvis was remarkable. All painful symptoms disappeared, and the urinary secretion became much clearer. The fourth patient suffering from a light pyelitis was markedly relieved by a single lavage. The improvement was still present one month after irrigation of the renal pelvis. The other two cases were cases of floating kidney with some renal retention, the pelvis from 15 to 20 grams of turbid urine. Both of these patients were benefited by the treatment. *Medical Standard*, Chicago, 1899, xxii, 356.

Muscular Development as a Radical Cure of Hernia.

Warden (*Lancet*, June 10, 1899) says that many cases of hernia can be permanently cured by the systematic development of the abdominal muscles. An examination of the external rings of an athlete will show one how firm and small they are, and how much less is the cough impulse, than that felt in an ordinarily muscular person. The advice that is often given to a patient whose hernia is treated by a truss, is to avoid muscular exertion. Following these directions his abdominal walls become flabby, whereas if he takes more exercise than before they will be growing stronger. Warden had seen a great change in the ring, after three-or six-months' regular exescise. He proposes three forms of exercise as especially adapted to such cases: (1) In dorsal decnbitus, with the hands at the sides, the patient is to raise his body from a lying to a sitting posture. (2) In dorsal decnbitus, let him raise both legs from a horizontal to a vertical position. (3) Let exercise No. 1 be performed in such a manner that the body sweeps toward one side before coming to an upright position, describing a curve and bringing into play the obliques. Each of these movements should be performed twenty or thirty times, or until a distinct sense of weariness is produced. *Med. News*, 1899, lxxv, 143.

Testing Urine.

M. Deroide and M. Oni say that in testing urine for the presence of albumen, the urine must be clear and perfectly transparent. Almost all, if not all, the tests rest upon the formation of a cloudiness, or of a precipitate. If the urine be cloudy (urates, pus) it must be made clear by one or more filtrations through filter paper. There are cases where filtration does not suffice, as when the urine has undergone fermentation or been invaded by microbes.

The addition of chalk, of calcined magnesia, of a few drops of an alcoholic solution of naphthaline, 5 per cent, has been advised to clarify urines that remain cloudy after passage through filter paper.

The authors have experimented with these different substances, and discountenance their use. They vitiate results. Albuminous urines treated with them failed to answer to the usual tests for albumen.

They have come to the conclusion that where passage through filter paper fails to clarify the urine, recourse must be had to filtration through Chamberland's filter. An absolutely limpid urine, from which all microorganisms have been removed, is thus obtained. All fallacies of the different reactions for albumin are thus avoided. *Medical Standard*, Chicago, 1899, xxii, 292.

A Common Cause of Crying in the New-Born and Its Relief by Water.

Southworth (*Canada Lancet*, May, 1899), suggests that the uric-acid infarctions in the kidneys of the new-born may be a source of irritation and a cause for crying if the scanty supply of urine washes them out with difficulty. Thus a baby which had cried almost all of the second day of its life and had passed, during this time, no water, emptied its bladder of a half ounce of turbid brown urine when the cool hand was placed upon it. Boiled water, which should be given to the infant regularly pending the establishment of lactation, will dilute the urine and alleviate such discomfort. *Med. News*, N. Y., 1899. lxxv, 43.

Albumineric Retinitis as an Element of Prognosis in Bright's Disease.

Rogers.—Fifteen cases are tabulated, all of which had been under observation for at least two years. One is still living. The result of statistical study is that about seven patients out of ten who develop an albumineric retinitis during the course of either of the three forms of chronic nephritis, will die within a year, and nine out of ten within two years. *Journ. Eye, Ear and Throat Diseases*, Balto., 1899, iv, 148.

MEETING OF APRIL 5TH, 1899.

Dr. SOWERS, Vice-President, in the Chair:

The following named applicants were favorably reported by the Board of Censors, and were elected to membership in the Society: Chas. E. Fergerson, National University, 1896; Ernest W. Fowler, Coll. Phys., and Surg., N. Y., 1895; B. L. Hardin, Columbian University, 1895; W. P. Malone, University of Maryland, 1888; J. Preston Miller, Medical College of Ohio, 1878; W. Gerry Morgan, University of Pennsylvania, 1893; J. B. Mullins, University of Maryland, 1887.

The Treasurer read his report for March, which is here appended.

TREASURER'S REPORT, MARCH, 1899.

Recived:		
Dues	$20 00	
Interest	30 00	
		$50 00
Disbursed:		
Printing Rosters	10 50	
Index Med	25 00	
Trans. Feb	29 17	
Trans. Mar	29 17	
Janitor	30 00	
		123 84

The Corresponing Secretary moved that a joint meeting of the Anthropological Society, and this Society be held on April 26th. Carried.

SOME COMPLICATIONS AND SEQUELAE OF TYPHOID FEVER, AS SEEN IN THE LATE WAR.

BY JOHN D. THOMAS, M. D.

During last summer, while having charge of the soldiers in the hospitals at Charleston, S. C., I saw some interesting complications and sequelae of typhoid fever. Typhoid fever being a disease with which all branches of the profession come in contact in some of its multiform phases, is more or less interesting to all. The fever was almost in every case contracted at Camp Thomas, Ga., and developed en route and while at Charleston. Most of the cases were seen in St. Francis Xavier Infirmary. They were admitted to the hospital from the 6th to the 16th of July.

I have not attempted to cull the records and literature dealing with the complications noted in these cases but have referred to some recent reports and data bearing upon their more salient points. And especially those in which I could find reports of similar complications amongst soldiers.

For the sake of convenience and reference I shall take them up under the headings of the different systems—cutaneous, circulatory, respiratory, etc. Where a case presents more than one complication, as frequently happened, the history will be given under the system which presents the most prominent one, and referred to by number for the others.

Cutaneous.—The most prevalent and general cutaneous complication was the mosquito bite. Every patient presented a thick mass of bites upon every exposed part of the body. This is especially interesting in the light of the recent views upon the infection with malaria through mosquito bites. Very few of the soldiers so affected presented the clinical symptoms of malaria. The following is the only case of typhoid fever which presented definite clinical symptoms of malarial infection.

Case I.—H. C. T. Ambulance Corps.

White, age 22; admitted July 9, 1898, to St. Fr. X. Inf.—Typhoid contracted at Camp Thomas. Widal reaction positive July 11th. Extremely severe and prolonged attack. When convalescing, temperature being normal for more than a week, had a chilly feeling followed by a sudden rise of temperature to 104 with slight delirium, falling again to normal in a few hours; 48 hours later another rise and corresponding fall. This occurred three or four times but at last yielded to good doses of quinine; no other untoward symptoms presented. Perfectly well between attacks. Blood examination unsatisfactory.

Another case presented somewhat similar symptoms during convalescence but only had one attack, so we cannot say that this was not one of those cases of convalescence which have a sudden high rise of temperature without any apparent cause.

*Tyson** reports from 112 soldiers with typhoid taken into University of Penn. Hospital from the various military camps, three cases of malaria—in one plasmodium was found on admission, but not in second examination. Symptoms of typhoid—in two cases plasmodium and clinical symptoms present during typhoid convalescence.

Wilson† reports a number of malarial cases among the soldiers in the German Hospital, Philadelphia. But his statement is a little doubtful as to all the cases being found in typhoid fever patients.

In Cincinnati notes—Jour. Amer. Med. Assoc., Oct. 15, 1898, Dr. Kromer writes from Camp Wikoff that typhoid was associated in many cases with malaria. The typhoid cases were typical ones, but not so with the malaria, although the plasmodium was found in the blood.

The following case presents a complication or type of typhoid fever which is very rare and very fatal.

Case II.—H. R. S., Lieut-Col. 3rd Wis. Regt., admitted July 11, 1898, St. Fr. X. Inf.—Fever contracted at Camp Thomas. Temperature on admission 104 ° Widal reaction positive July 13th. Severe course, fever high, diarrhoea, vomiting. When he came under my care July 21st, was almost *in extremis*. Hemorrhagic extravasations in subcutaneous tissues, under lower eyelids, on body and arms. Very dark blue and black in color. Died July 22d. These hemorrhogic extravasations did not appear until about July 20th or 21st ; and from the history obtained, his illness began about July 6th. That being the date the company arrived from Camp Thomas, it probably only represents the time he went to bed and was put on sick report—no doubt the first part of the 2d week of disease. So we find the hemorrhagic condition appearing about first part of 4th week—when general condition was extremely critical, though the temperature had been nearly normal for several days. No intestinal hemorrhages are recorded.

These cases of hemorrhagic typhoid must be distinguished trom the cases having intestinal hemorrhages.

Gilman Thompson in the Medical and Surgical Report of Presbyterian Hospital, New York, for 1898, reports a case which recovered. Widal and Ehrlich tests positive. Extravasations appeared on the 11th day of disease and began to fade during 4th week. Hematuria, epistaxis and slight intestinal hemorrhage present. Cannot say whether

* National Medical Review, Vol. viii, No. 10.
† National Medical Review, Vol. viii, No. 10.

these latter symptoms were present in my case—no record of them on the chart.

There were also noted in two or three cases, especially Case XI, at the height of the disease, and synchronous with the rose spots, light petechial spots about the size and shape of a silver 3 cent piece, on the abdomen and chest; few in number and appearing to be just under the cuticle; did not disappear on pressure; only remained a few days and entirely disappeared. These could hardly have been the peliomata mentioned by Osler and others as caused by body lice. No body lice were seen or heard of.

Oedema of the fat was seen in one case which represented neither kidney nor heart trouble, nor thrombosis—what Osler explains as "In association with anaemia and cachexia."

Abscesse:—

*Senn** in a report from Camp Wikoff says the most important and frequent of our complications of typhoid fever have been bedsores and abscesses.

Keen† seems to think that a a great number of the abscesses in different parts of the body are caused by the typhoid bacillus, or by mixed infection—typhoid and other bacteria. The fact that the typhoid bacillus is found in nearly, if not every, organ and part of the body in a case of typhoid fever, lends color to the statement that a great majority of the complications, such as abscesses, thrombi, cholecystitis and many inflammations may be the direct result of infection by the bacilli. And the fact of the so general diffusion of the bacilli, especially in the blood and large glands, emphasizes the contention so strenuously maintained by Osler and others that typhoid fever is not a disease primarily nor chiefly of the intestinal tract.

My cases of abscess were very few. One very large one occurred over the sacrum, undermining the muscular tissue to some extent. It was probably a mixed infection, as a small bed sore was present. The patient was much emaciated Recovery was rapid and a small abscess occurred on the thigh of a convalescent, who also had follicular tonsilitis.

Circulatory System.

By far the most common complication involving this system was phlegmasia alba dolens, caused by thrombosis of the veins. In 67 cases of typhoid there were 6 who had this complication, caused by thrombosis—or nearly 9 per cent.

It is very noticeable that all the reports lately, of this complication put the percentage much higher than Murchison, whose statement that it occurs in about 1 per cent. of cases has been accepted as authorative; the percentage has been especially high among the soldiers of the late war.

Wilson‡ gives 7 per cent. *Tyson*§ 3.4 per cent. *DaCosta*‖ 14 per cent. and *Anders*¶ in a recent epidemic in Philadelphia reporting 15 per cent. in 40 cases fever. It almost invariably occurs at the end of the fever or during convalescence.

The cause was thrombosis, while the reason for the thrombosis has not been satisfactorily explained. Keen and others hold that the infection of the blood by the typhoid bacilli acts as a causative agent.

* Jour. Am. Med. Assoc., 1898, p. 1353.

† W. W. Keen. "The Surgical Complications and Sequelae of Typhoid Fever.

‡ (Supra).

§ (Supra).

‖ Internat. Med. Mag. viii. Jan. 1899.

¶ Med. Bull. Phil. 1898, xx 121-124.

Yet this does not go for enough. I would suggest as a factor the slowing of the pulse, which often occurs during convalescence. This retardation of the blood current would give the already infected blood an opportunity to coagulate at the point where the propulsive force was lessened by the length of the limb, the force of gravity, and the absence of the normal suction produced in the viens of the groin force by the action of the muscles of the limb in walking and moving. (Landois and Sterling 887). Unfortunately my records of the 6 cases are all deficient in pulse records except Case IV which shows a rate of 58 to 66 for several days prior to the sudden collapse, which just preceded the thrombosis of the femoral vein.

Case III.—A. Z., Co. K. 2nd Wis. Reg., age 24; white; admitted July 12, 1898, to St. F. Xav. Inf. Fever contracted at Camp Thomas. During convalescence developed phlegmosia alba dolens of left lower extremity from thrombosis of femoral vein. During fever a cardiac murmur was heard which persisted after convalescence. It is a question in this case if the cardiac condition was a complication of the typhoid attack, or existed before and was overlooked when he was mustered into the service.

Case IV.—M. E., Co. B, 2nd Wis. Reg., 22 years, white, admitted July 14, 1898, to St. Fr. X. Inf. Fever contracted at Camp Thomas. Temperature on admission 105° F. and remained high 6 or 7 days. Diarrhoea. Afternoon of 15th vomited, and blood was present in vomitus. Temperature normal July 24th and remained so with slight rise once or twice, patient convalescing rapidly—getting only liquid diet. Evening of July 27th, about 10.30, sudden collapse while lying in bed. The house physician being in the ward at the time, patient called him. When he reached him he was almost pulseless, sinking rapidly, though perfectly conscious and suffering no pain. He described it afterwards as a "sinking away." Hypodermics of stimulants were given, but when I arrived shortly afterwards pulse was hardly perceptible. He was kept perfectly quiet in the position he was lying for some hours until his pulse showed improvement. Was perfectly conscious of his critical condition. Before collapse, at 10 p. m., temperature 98.8 degrees: at 11.30 p. m., a few minutes after collapse, temperature 98.8 degrees, pulse 140 and running: at 11.10, vomited small quantity of green fluid and mucus; at 1.30 a. m., of the 28th temperature 100 degrees, pulse 125 somewhat stronger; 5 a. m., temperature 102 degrees, pulse 120; 7 a. m. temperature 103.4 degrees, pulse weak; 9.30 a. m. temperature 98.5 degrees, pulse 100. Temperature ranged from normal to 100.6 degrees until the morning of 29th from which time it remained normal, pulse gradually regaining its strength and regularity.

The morning of day of collapse a cleansing enema was given without result. But large stool at 5 p. m. Bowels did not move again until 3rd day after attack, and no blood clots were found then or in later stools. A little more than a week later thrombosis of left femoral vein occurred. There was at no time any marked tenderness over abdomen, and no special point of tenderness, no tumor at any time. Patient made a good recovery.

The cause of this collapse I am unable to state, unless it was what it so closely resembled, an intestinal hemorrhage high up in small intestine, the blood

clots being digested on their passage through the intestines.

Case X, mentioned later, presented a thrombosis of left (?) femoral vein together with other interesting complications.

Cases V, VI, VII.—Three cases of thrombosis occurred in some convalescent soldiers who came under my care from the city Hospital of Charleston. Two were in femoral veins—one right(?) one left and one in deep tibial veins. In one case the whole femoral vein could be felt as a good sized cord from popliteal space to Pouparts ligament.

There was some swelling and some little pain in several of the cases. All recovered. The preponderance of the cases in the left femoral vein has as its only explanation that given by Liebermeister of the anatomical relation of left iliac vein and right iliac artery—the vein being crossed by the artery. DaCosta gives the proportions of his 18 cases in 135 fevers as follows (13½ per cent): 3, left leg alone; 2, right leg alone; 13, both legs, beginning usually on left side. Wilson 5 cases all in left leg. Tyson's 8 cases in 112 fevers (7 per cent.) as follows: 6, left leg involved; 2, no mention is made. My cases 6 in 67 fevers (9 per cent.) 3, left leg; 2, doubtful; 1, right leg.

Besides Case III, there was one other, (Case XI,) with a heart murmur very pronounced systolic But this is likewise open to the same doubt as Case III, although close questioning could not bring out any history of previous heart trouble. The murmur was discovered about the third week of disease, not having been looked for before—and continued during convalescence to date of furlough. Valvular lesion as a compilcation of typhoid is very rare, and hence my caution in accepting these two cases as true complications and sequlae without being very positive that lesion did not exist before mustering in.

Respiratory System.

Among the most interesting complications met with in the respiratory system was pneumonia. DaCasta, in a recent article in "*Medical Age*," speaks of this complication as appearing early, usually in the 2nd or 3rd week of the disease—what the Germans call "pneumo-typhoid." No change in the sputum is noticed; and it is really more of a congestion, with rales.

*Senn** reports two cases out of 162 typhoid fever patients in the Porto Rico campaign.

Tyson reports 2, one fatal, in his cases.

Wilson reports six in 147 typhoids, one with empyema following recovery after drainage.

Bearing upon this latter fact I find that Keen has collected only 9 cases of typhoid infection of pleural cavity in his monograph. All began after the 3rd week, some even one to two months after the fever. In one, caused by pneumothorax, 38th day after convalescence both from the fever and from a bronchopneumonia

In some cases Eberth bacillus was demonstrated. Two cases died, one of abscess of lung, and one from uncomplicated empyema.

I encountered the following cases:

Case VIII.—J. Z. musician, 3rd Wis. Reg., 23 years, white, admitted July 14, 1898, to St. Fr. X. Inf. Fever contracted at Camp Thomas July 25th, pneumonia process developed in left upper lobe; soon cleared up, and patient made good recovery.

* Jour. Amer. Med. Assoc. 1898, p. 601.

Case IX —E. F. Co. D, 2nd Regt., 19 years, admitted July 11, 1898 to St. F. X. Inf. Fever contracted at Camp Thomas. Temperature on admission 104 degrees F. Developed July 30, a pneumonia in middle lobe right lung; cough, but without rusty sputum; pain in side; cleared up. Temperature normal August 8th. August 15th complained of great pain and tenderness in balls of feet and toes. Not able to put them to the floor. Epidermis over these parts was thick and hard. Relieved in a few days by stimulating baths. During height of fever exhibited a marked slowing and indistinctness of speech, so entirely different from his usual voice that his companions in the ward commented upon it. Recovered September 8th.

The following case is interesting on account of the number and severity of complications; the empyema following the pneumonia and pleurisy; and the recovery from all, or at least, sufficiently to travel to Boston safely, after which I lost sight of the case.

Case X.—W. J. W., Capt. Co. C, 6th Mass. Regt., 35 years, colored, admitted July 7, 1898, to Hosptal. Fever contracted at Camp Thomas. Quite severe attack of typhoid. At beginning of convalescence, about August 3rd, developed suddenly a double pneumonia and pleurisy, following which an empyema of right side, with some little effusion in left. A few days later thrombosis of (I think) left femoral vein. (The chart of this case is not at hand and so I must depend upon memory for some points.) The right chest was opened and drained. Patient recovered sufficiently to leave for Boston September 16, 1898. Unfortunately no culture was obtained from the pus, but undoubtedly the pneumonia and pleurisy were directly attributable to the typhoid infection, as the patient was sitting up for the first time when I saw him, and had not been out of the room which he alone occupied.

This pneumonia occurred later than in the other cases and was much more severe.

Besides this case of pleurisy there was one other mild case which soon cleared up.

Nervous System.

The most pronounced involvement of the nervous system which occurred is shown in the following case :

Case XI.—G. K., Co. B, 2nd Wis. Regt., 18 years, white, admitted July 14, 1898 to St. F. X. Inf. Fever contracted at Camp Thomas. Temperature on admission 103.4 degrees F., course of disease very severe, small abscess on thigh. Frequent epistaxis. Cardiac systolic murmur. Temperature high. Delirium. Convalescence began August 3rd and was slow. Mind not clear; illusions. Upon trying to walk found lower extremities below knees somewhat useless. Examinations August 22nd showed in legs, sensation of touch and pain good; thermic sensation defective—not being able to tell cold from heat. Foot-drop in both legs. Patella, ankle clonus, triceps reflexes absent. Mental condition impaired. Synchronous with the rose spots there appeared on abdomen and chest light petechial spots the size of a three cent piece. These were referred to before. Also the cardiac complication. It is said by one authority that patella reflex is never absent in typhoid fever. Such a combination of complications in one case is not a very common occurrence.

These involvements of the nervous system were primarily due I think to a neuritis. So also the case of what is

called by Handford tender toes, seen in Case IX. Great slowness of speech which is spoken of by Osler as a nervous sequel, was noted in case IX during the fever, and only slightly during convalescence. Pain in the legs was also noted in two other very severe and prolonged cases, during convalescence. One case of marked numbness and anaesthesia during canvalescence, over an area as large as the palm of the hand on outer surface of left thigh. I am glad to say no cases of contractures of limbs were seen.

It is of some interest to note that none of these cases had the Brandt bath treatment, though they were all sponged with cold water and alcohol. Many of the nervous sequelae are now imputed by some to the Brandt bath. Upon this point it may be well to mention what Gilman Thompson says about some comparisons made at Presbyterian Hospital, N. Y. In comparing 139 Brandt bath or cold water treatment cases, and 61 cold sponge bath cases, the conclusion was reached that neuritis was not more common after the Brandt bath treatment. Tyson says he has rarely met neuritis following typhoid.

Digestive System:

Follicular Tonsilitis occurred in a mild case about the 2nd week of convalescence before the patient had been out of hospital. Also had a small abscess on thigh, about beginning of convalescence. No other cases of tonsilitis before or following this one.

The next case involving the digestive system is a most interesting and rare one. Ulceration and perforation of the gall bladder. Before citing the case a short resumé of the conditions existing in and surrounding this complication as shown by the few who have made any study of it, may not be out of place.

I am especially indebted to a very able article by J. M. DaCasta in the *Amer. Jour. Med. Sciences* of the past year, as well as to the monograph of Dr. Keen.

In the general infection of the system by the Eberth bacillus in this disease the bile passages seem almost never to be passed over, as has been proven by Councilman and others. Pure cultures of the bacillus can be obtained from the gall bladder. And not only is it never overlooked in the distribution but they seem to remain longer, cases being recorded of bacilli found 6 and 8 months and longer after the fever. In one case they were found 14 years after the attack, in pus around the gall bladder. They form the nidus for gall stone formation, having been found in gall stones in many cases. And it is well to mention here that Chiari* suggests the cause of relapses may be found in the fact that convalescents beginning to take food causes the functions of the liver to be accelerated and the increased flow of bile washes out into the intestinal tract and the system a fresh horde of bacilli. Though the gall bladder is so often infected there are seldom any clinical symptons of it during the disease. Chiefly in cases of perforation are they present and then by no means are they certain or diagnostic.

Diagnosis though very important is often impossible, and many cases remain undiagnosed until autopsy, as in the case reported by me.

The most marked diagnostic symptoms of cholecystitis according to Da Costa are pain and tumor.

Pain is almost never absent, present

*Referred to by Keen.

in epigastric or right hypochondriac region, very severe. Very often marked tenderness, but not often confined to gall bladder region.

Tumor at seat of gall bladder is even of greater diagnostic import than pain.

Jaundice is by no means a constant symptom.

Chills are conspicuously absent; present in only 3 out of 54 cases viewed by DaCosta. May sometimes occur when suppuration takes place.

All forms are most likely to come on late in the disease or after convalescence.

Finally, DaCosta says that diagnosis of typhoid cholecystitis is impossible with any certainty except where tumor is present. Symptoms of perforation are those usually present in perforation of the intestine, except the sudden intense pain is in region of gall bladder. Peritonitis may lead to encapsulation of contents discharged, as occurred in my case. He also remarks that the course may be a comparatively slow one, 2 cases not dying until 12 days after perforation. My case lasted 13 days after the time I now think the perforation occurred.

DaCosta collected 58 cases of cholecystitis in typhoid fever—39 deaths, 15 recoveries, 4 result uncertain or not stated, perforation of gall bladder occurred in 22. In 6 of these 22 gall stones were found, in 16 either absent or not mentioned. Keen reports 3 recoveries in 30 cases perforation. 4 operated upon, with 3 recoveries.

The case is as follows:

Case XI.—P. C., Co. K., 3rd. Wis. regt.—19 years, admitted July 11, 1898, to St. F. X. Inf. Fever contracted Camp Thomas. Probably in 2nd week of disease when admitted. Widal reaction positive July 13th. History chart up to July 19th missing, and as he came under my care not until the 21st, cannot be certain as to that part of history except that he was considered and treated as a case of typhoid fever. On July 19th temperature was 103.6, pulse 96. Bowels loose, actions cream colored, continued light yellow color, with one exception, till death. Day before he died had a slimy dark green stool, the last one before death. Severe diarrhea through entire illness, very often involuntary. July 21st, temperature normal, pulse 100. Temperature remained normal with slight variations for several days, pulse being rapid, at times weak and thready. Marked tympanites, retained somewhat by passing rectal tube. July 25th, vomited milk when given.

Patient became delirious, and later very noisy, uttering a peculiar, high pitched cry, which could not be stopped even with opiates. Deafness appeared. Next day (26th) small loose yellow stool with clots of blood. On 27th, marked tympanites. No defined point of tenderness—in fact—abdomen not very tender. No tumor discovered on palpation of abdomen. Chill at 1 p. m.; temperature at 2.45 p. m. 101.6 degrees; at 8 p. m. 96.4 degrees. Vomited at 11 p. m. Pulse very weak and thready most of time. Had to be strongly stimulated.

From this to time of death, patient was delirious, at times could retain nothing in his stomach and was fed by enemata, which were also finally rejected. General condition extremely precarious for 6 or 7 days before death. Tympanites marked. Died Aug. 9th. Temperature before death 105.4 degrees. No jaundice noticed while under my care.

Autopsy.—Five hours after death.

Lungs congested posteriorly. Antemortem clots in both sides of heart, muscle soft. Abdomen—Greater omentum almost gangrenous at lower right border. Intestines distended with gas. Large intestine, showed constriction 6 inches long by adhesions, at junction of sigmoid flexure and descending color; congested and almost gangrenous at junction of rectum and sigmoid. Whole large intestine much congested; solitary glands ulcerated; adherent at hepatic flexure to gall bladder. Small intestine, lower two feet almost gangrenous; about junction of ileum and jejunum much injected; Peyer's patches ulcerated. Mesenteric glands enlarged. Spleen, somewhat enlarged, friable weight 16 oz. Kidneys normal. Liver, weight 4 lbs., 1 oz On under surface of right lobe an encapsulated sac of bile, large as palm of hand, surrounded by pus, and communicating with the gall bladder through an ulceration near its neck. Gall bladder more than half full of bile and mucus. No gall stones found either in gall bladder or sac. Brain, congested, quite a large amount of cerebro-spinal fluid. Adhesions of dura along longitudinal fissure.

It was evident from the autopsy that there had existed a more or less general peritonitis sometime before death, causing the adhesions and gangrenous conditions.

This was the only case with an intestinal hemorrhage, unless in Case IV the sudden collapse can be attributed to a hemorrhage.

Relapses 6 relapses were seen. In one case there were two. In 2 the relapse was more severe than the primary attack, but did not last as long. They all began after a convalescence with normal temperature of from 5 to 11 days. Widal reaction, positive in first attack in 3 cases. Not taken in relapses.

Number of days of relapse were as follows: 2 lasted 14 days; 1 lasted 11 days; 1 lasted 17 days; 2 lasted 8 days; one a second relapse.

A relapse may be caused by so many different things that the percentage varies in almost every set of cases reported. And on the other hand so little is really known of the true cause or causes of relapses. The suggestion of Chiari mentioned above seems to have a greater amount of probability in it than any I have found.

The 67 cases of typhoid fever presented many interesting, and at least two very rare complications. I regret that more exact and scientific records were not kept, for I am sure some of the other cases as well as the ones reported would have shown more interesting facts. And from them I have learned many valuable lessons. Not the least of which is to help along the good work of more thorough and scientific investigation of these complications and sequelae by having bacteriologic examinations made where possible, to see what part the bacillus of Eberth plays.

DISCUSSION.

Dr. Neff said he had seen many cases of typhoid in the army, including the complications mentioned by Dr. Thomas, and some which he had not mentioned. The most frequent complication which he had observed was malaria—almost exclusively of the aestivo-autumnal variety. He had also seen one case of suppurative orchitis; one of ulcer of the larynx; with oedema of the glottis and sudden death; suppurative parotitis, both unilateral and bilateral; phlebitis; typhoid mania; intestinal hemorrhage; he noticed especially the large number of cases in which the two diseases co-

existed—typhoid and aestivo-autumnal malaria. A careful examination of the blood was made in every case.

He could give the best idea of the results of treatment in those cases which came under his observation by giving numerical data. At Fort McPherson, Ga., where Dr. Neff was stationed, 3,262 sick and wounded were treated up to December 31st, 1898, with 95 deaths, a mortality of a fraction less than 3 per cent. There were 1211 cases of typhoid, and 84 deaths—a mortality of a trifle less than 7 per cent. When we consider that the facilities and conveniences for treatment in the camp are much inferior to those ordinarily employed, a mortality of less than 3 per cent for all cases is not a bad showing. Much of this good result was due to the devotion and efficiency of the female nurses.

Dr. Borden said that as his experience in the late war had been mainly surgical, he had not seen as much of the medical side as many others. He had, however, seen many convalescent typhoids, and had observed one interesting sequela which had not been mentioned in the paper, namely: "bone abscess." Of these he had seen 4 cases: 2 of the tibia, 1 of the rib, and 1 of the mastoid process, secondary to pneumonia following typhoid. The first 3 of these cases, were of interest in that the inflammatory symptoms were slight, and slow in development, thus resembling "cold abscess"—the main local manifestation being acute localized pain on pressure. Upon cutting down upon them, the periosteum was found thickened, and in the 2 tibial cases there was thick cheesy pus in the bone itself, not in the medullary canal. These 2 cases healed by primary union after cleansing and suturing. The rib abscess persistently suppurated, even after thorough curetting and cleaning. The mastoid abscess healed rapidly after operation. The typhoid bacillus was grown from one of the tibia cases, in the other cases the staphylococcus only was found. Another sequela observed was persistent anæmia. From this the patients recovered slowly, and it appeared that nothing but a change of climate would help them. It was found that a month's leave of absence from camp would cure them, whereas, in that time, if they remained, almost no improvement would be noted.

He had not seen any cases of femoral phlebitis, but had had 2 interesting cases of inflammation of the internal saphenous vein.

Dr. Lamb said that in our former war, he had seen several cases of meningitis as a complication of typhoid fever. It was however, of rare occurrence, and he was not aware that any report of the coincidence had been made. It was interesting as it is likely that some of our sporadic cases of "epidemic cerebrospinal meningitis" are typhoid fever with this complication.

Dr. F. P. Morgan said one complication which he had not mentioned was *continued fever* occurring during convalescence from typhoid. It would be interesting to know whether any such cases had been noticed in the army. He had had one such case—that of a man thirty years old who had a typical attack of typhoid which ran the usual course. During his convalescence, after his temperature had been down to normal about ten days, he was removed from the Garfield Hospital to his home. In about 3 days, his temperature rose, somewhat rapidly, to 103 degrees. From this time it gradually fell, and reached the norm in about two weeks. It was unaccompanied by any of the symptoms of typhoid which would indicate a relapse. It is usually easily diagnosed from a relapse of typhoid fever by the absence of nearly all the symptoms which characterize the latter condition.

Dr. S. S. Adams said that he had seen several cases of phlegmasia following typhoid. He also recollected one particularly severe case of neuritis following the disease in a nurse at the Children's Hospital. As to the post-typhoid fever which had been mentioned, he agreed that it was often difficult to make a diagnosis between the condition, and the fever of relapse or sepsis. He believed, however, that in the majority of cases it is a starvation fever—the

patient has been kept upon liquid food too long. Some doctors have a definite rule—they wait just so many days or weeks before giving solid food. His rule was, however, to give solid food just as soon as the local abdominal symptoms had disappeared and the tongue was clean, and the digestion good. He had also seen several cases of post-typhoid insanity occurring in children, and adults. He thought this condition also due to a lack of solid food.

Dr. J. Dudley Morgan said that those who were on duty in the hospitals of this city last summer, had an opportunity to treat many cases of typhoid—army cases—without the disadvantages of camp life. The disease was of the most violent type he had ever seen; the maniacal symptoms were extreme, typical "deliriuin ferox" of the old writers. The treatment which was most efficacious for the relief of the nervous symptoms, and the reduction of temperature, was the cold bath. As regards what Dr. Adams has said, he was opposed to putting patients too soon upon a solid diet. He had always been cautious in this regard, and had had good results. As to phlegmasia alba dolens as a complication, he had seen it in the arm, as well as in the leg. He thought that it was most often caused by some unusual exertion on the part of the patient—sitting up, etc., or his being lifted roughly.

Dr. Acker said that several complications of typhoid had not been mentioned, one of which was cancrum oris, of which he had had 2 cases. He had seen 3 cases of suppurative periostitis, and 1 of abscess of the tibial region, due to thrombosis of the veins. In this last, the process did not involve the periosteum. As regards sequelæ, chills and fever is important. After the temperature has been normal about a week, it suddenly goes up to 106, and is followed by a sweat; this recurs every other day or so. Quinine puts off the paroxysms a day or two, until it is omitted, when they return. He had such a case where the condition persisted 8 or 10 days. Colic following typhoid is also interesting, and is probably due to a constriction of the bowel, due to improper healing of the ulcers. As to continued fever as a complication—he recollected a case he had, in which the temperature persisted at 102 or 103 degrees. He sent the patient to Fortess Monroe; the temperature then declined, and 3 days after, solid food was given Gangrene of the lung is a rare complication which had not been mentioned. As regards food, he agreed with Dr. Adams that it was well to give solid food earlier than is usually done, from the 10th to the 14th day.

Dr Behrend said that perforation of the intestine was severe complication which had not been mentioned. It is usually fatal, though he had had 2 cases which recovered. One was a boy, 10 years of age, who was doing well, when pain suddenly developed in the abdomen, with tympanites. He recovered after 6 weeks. An interesting thing about this case was that paralysis followed paraplegia, which lasted 3 months. There was complete recovery.

Dr. Chappell asked Dr. Adams whether the tongue remained clean after the temperature had again risen in his cases of post-typhoid fever. Dr. Adams replied in the affirmative.

Dr. Chappell said that no doubt Dr. Adams was right in putting the patient upon solid food if the tongue was clean. He did not believe that we could make any definite rule as to the time when a patient should receive solid food after typhoid. He believed a relapse was nearly always due to indiscretion in diet. He had treated during the past year, two young men in the same room, sick with typhoid. Both had been taken ill at the same time, and the fever in both disappeared at about the same time. After their temperature had been normal for some days and their tongues clean, and they had begun to take a little solid food, he discontinued his visits, giving definite instructions as to food, exercise, etc. In a week, he was again summoned to treat them for a typical relapse, the characteristic spots appearing. They had not only overeaten, but had been out of doors.

Dr. A. F. A. King said: The propriety of giving typhoid convalescents solid food was discussed in this Society 10 or 15 years ago. Perhaps the truth is that the danger of giving these patients solid diet has been exaggerated from the fact that a few individuals, after eating too much and too rapidly of some improper food, have suffered serious, and sometimes fatal consequences. Just as 30 years ago, there was a prejudice against giving fever patients cool water—a prejudice that probably arose from some poor fever-stricken individuals who had been restricted from slaking their thirst in a normal way, finally obtaining access to, and drinking at one swig, a too large quantity of very cold water, with consequent fatal shock, etc. This baseless, and old tradition against allowing fever patients to drink cool water in a natural way, no longer exists. And so, perhaps, the prejudice against allowing our typhoid convalescents to enjoy solid food, will also disappear. The main point is to insist that whatever solid food be given, should be of good quality and in proper quantity.

Dr. Neff asked the experience of those present with regard to operations after perforation of the intestine.

He had noticed that as a rule the left leg was affected in phlegmasia dolens; but he did not know exactly how to explain it. As regards treatment, he was opposed to the Brandt method, as usually carried out, on account of the shock which it produced, the extreme nervous excitement, and the increased risk of perforation by rough handling. He had used another form of treatment. He saw each patient 3 times a day, and in bad cases oftener. Each one was put to bed, an ice-cap was applied, a sponge bath given morning and evening and the temperature was taken every 3 hours. When it rose to 103.5, 4 grains of acetanilide in a tablespoonful of whiskey was administered. The alcohol counteracted whatever depressing effects the acetanilide might have. The diet was absolutely nothing but milk. 10 or 15 drops of Dilute Hydrochloric acid in water 3 times a day were given, and the hygiene of the mouth was carefully looked after. All his patients recovered under this treatment, when taken early. The deaths were in cases received in an advanced stage of the disease. The milk diet was continued until the temperature had been normal for 10 days; then semiliquid, and later, solid food was given. All these cases did well, and had no serious complications. An instance illustrating the effects of improper diet upon different individuals came under his notice. The convalescents had relapses but ultimately recovered.

Dr. Behrend said that he does not use tub baths in typhoid in private practice. He, however, uses baths by a method which gives very favorable results. He has several large rubber blankets, and has taught his families how to give a sponge bath by placing one of these blankets beneath the patient, and sponging him with a sponge large enough to hold half a bucketful of water. The water runs into the blanket. This method gives no shock and the patients do well under it. As regards drugs, since the Woodbridge treatment appeared, he has never given anything except guaiacol carbonate, and menthol, and occasionally, calomel.

Dr. J. Ford Thompson said that he had only once performed laparotomy for perforation of the intestine in typhoid fever. This was last year. The patient was a young man, and had presented symptoms of perforation on the preceding day. He suggested laparotomy, and about 24 hours later opened the abdomen, found the perforation, and closed it. The man was in a bad condition at the time of the operation and died the next day. He was strongly in favor of laparotomy in these cases. But to get good results, it should be done as soon as diagnosis of perforation is made out. The high mortality is due either to bad cases of typhoid, or because operation is delayed until general peritonitis has set in. The operation is too much neglected, and physicians are prone to resort to stimulants, etc., and put it off until it is too late. He saw no reason why the

operation should not be more common, although the mortality is great.

Dr. Claytor said that he had had one case of operation for perforation, and that was a young woman. Dr. Van Rensselaer performed the operation, and found a perforation in the ileum, about a foot from the caecum. The patient died a few hours after the operation.

The reason the left vein was more frequently involved in phlegmasia dolens, was that the left common iliac vein was crossed by the right common iliac artery, and hence was constricted, and its current slowed.

Dr. Thomas, in closing the discussion, said that many of those who had spoken had not followed the subject. As to the continued fever mentioned by Dr. Morgan, he did not mention it in his cases, but it occurred during convalescence. He had several cases in which the fever persisted with about one degree rise, although the other symptoms improved. After a week or 10 days, he concluded that they were getting too much care, and put them upon a solid diet, and convalescent treatment, with rapid recovery. He did not, however, advocate giving solid food too early. One or two of these cases who were put upon solid food after a day or two, had a relapse. As to meningitis as a complication, one of his cases showed post-mortem signs of intense congestion of the brain. There were also some symptoms before death.

Meeting of April 12th, 1899.

Dr. Busey, President, in the chair.

In accordance with an request from the Secretary of the Washington Academy of Sciences, that a member of this Society be appointed to seat guests at the coming meeting of the Academy, the motion was made, and carried; the chair appointed Dr. T. C. Smith.

Dr. J. H. Bryan presented a specimen from a case of chronic abscess of the frontal, ethmoidal and sphenoidal sinuses followed by meningitis and death.

Patient complained of neuralgia limited to the left frontal and temporal regions; occlusion of the left nostril and a profuse purulent discharge from the left side of the nose. Condition had existed for a number of years, increasing in intensity.

Examination showed left side of the nose completely blocked with polypi of considerable size, and also containing a large quantity of thick yellow pus which was discharged principally from the anterior naris. Post-rhinoscopic examination showed small quantity of pus in the superior meatus coursing down over the posterior extremity of the middle turbinate. The eye showed visual fields normal. After the removal of polypi the frontal sinus was opened by removing a button of bone 1 ctm in diameter from its anterior wall. The cavity was found filled with thick fetid pus and granulation tissue. There was also extensive necrosis of its anterior wall and the flow extending back into the ethmoid cells as far as the probe would reach. After removing all diseased tissue the sinus was packed with iodoform gauze, one end being drawn out through the nose, the wound closed and hermetically sealed with iodoform-collodion.

The patient passed a good night, but on the following day complained of pain in occiptal region, increasing in intensity and within twenty-four hours became semi-comatose, and dying at the end of the third day after the operation.

Autopsy showed a lepto-meningitis resulting from an extension of the inflammation from the sphenoidal sinuses—which during life gave no evidence of being involved. The seat of the operation was healthy and it was not the source of any infection.

Discussion.

Dr. Richey said he had noted two symptoms not mentioned as being pres-

ent, but which he had seen in a few cases; viz: exophthalmos, due to displacement of the eyeball from swelling in the orbital cavity; and interference with the nutrition of the eyebrows, causing them to turn gray. He did not understand from the report of the case, whether death had been due to meningitis from infection from the abscess, or to inflammation from continuity of tissue. We know that in inflammation of the sinus, in patients over 30 years of age, the swelling is not apt to appear externally, but may give pressure symptoms, and also, by extension, a meningitis. He did not understand whether pus had been found in the cerebrum or not.

Dr. C. W. Richardson said it was not always easy to diagnose abscess of the sphenoidal sinus, and he thought that Dr. Bryan had done as much as anyone could. From the history, there was no reason to suspect the presence of such a degree of inflammation as existed in this case.

Dr. Dufour said one point he had noted, was the absence of eye symptoms. Considering the nearness of the optic foramen, through which the optic nerve passes, and the sphenoidal fissure, through which the superior and inferior divisions of the 5th, as well as the ophthalmic branch of the same nerve, and the 4th, 5th, and 6th nerves pass, it would seem that the inflammation, and consequent swelling of the tissues would have caused such symptoms as optic atrophy, partial or total impairment of the movements of the eye, and loss of sensation in that part of the face. It is also somewhat strange exophthalmos does not present, nor tumor at inner angle of the orbit, and some restriction of the visual field. The case is of unusual interest, and he regretted it did not have a better termination.

Dr. Lamb said that comparing the two brain specimens presented—Dr. Bryan's and his own—in his, exudate was found upon the convexity, base, pons, and medulla. In Dr. Bryan's however, there was almost none upon the base, pons, and medulla.

Dr. Bryan, in closing the discussion, said that the meningitis had not been caused by extension of the inflammation by continuity of tissue, but by infection from the abscess of the sinus. As to the absence of eye symptoms which had been mentioned, both Dr. Wilmer's examination, and his own, showed that there were none. The mobility of the eye, and the condition of the fundus, were perfect. The only abnormality in the eye noted, was a slight sluggishness of the circulation.

Dr. Lamb presented the following specimens:

Contracted granular kidneys with sclerosis of renal arteries.

From a dark mulatto woman age 44; sick 5 weeks. Had convulsions a few days before admission to hospital. In hospital two days; principal symptoms, stupor, pulse 124 to 130, axillary temp. 97°, respiration 16 to 24; marked oedema of feet and legs; urine 1012, contained much albumin; bloody vaginal discharge. The post-mortem examination showed a body well nourished, lungs with oedema in upper lobes and red hepatisation in lower lobes, opacity of pleuræ, lower lobes, and old adhesions right lung. Heart weighed 17 ounces, hypertrophied, otherwise normal; ascending aorta normal. Liver congested. Spleen small. Pancreas, stomach and intestines normal. Kidneys as described. Uterus enlarged and contained a little blood, Fallopian tubes dilated and distended with bloody liquid; ovaries atrophied. The hypertrophy of heart was due to the increased arterial tension. According to Osler, oedema is not common in these cases unless the hypertrophied heart begins to fail. Acute pneumonia is not uncommon.

Puerperal uterus and appendages with fatal peritonitis.

Uterus measures 5 inches long; shows on posterior wall a nodulated mass, the

placental site ; both the tubal fimbriated ends deeply congested ; in right ovary is a small old corpus luteum as from a previous pregnancy and a large more recent one as from recent pregnancy ; broad ligament on left side is much thickened and blood vessels show clots ; some recent lymph on peritoneum ; the uterus contained a dirty looking bloody liquid, the left oviduct and broad ligament contained pus. The abdomen contained some purulent fluid, peritoneum every where covered with recent lymph and pus ; intestines interadherent by delicate adhesions. There was also congestion of brain membranes ; oedema of upper lobes of lungs, oedema and congestion of lower lobes and also a few patches like broncho-pneumonia ; liver and kidneys showed cloudy swelling, spleen a little enlarged and showed slight enlargement of lymphoid follicles. No other lesions of importance. From a mulatto girl 18 years old, unmarried. In hospital two days. Was disposed to conceal the fact of pregnancy. No sign anywhere of instrumental violence. Date of parturition not ascertained. It has since been stated that she had had a previous pregnancy which explains the small corpus luteum. In the absence of knowing date of parturition it becomes important to estimate period of pregnancy. From appearance and size of uterus I estimated about three months. Just how much involution has taken place seems difficult to say. The presence of purulent or at least infecting fluid in uterus, and of pus in left oviduct and broad ligament shows the course of infection. It would be interesting to know how soon after delivery peritonitis began ; 48 hours is sufficient time for exudate to be recognized. She had the signs of peritonitis when admitted to hospital. It has been suggested that the placental remains show disease ; I am uncertain on that point ; I think it rather difficult to say.

Cerebro-spinal meningitis.

A negro aged 40. Previous history could not be ascertained. When admitted said he had been struck on head about one month before, was excited, eyes staring, conjunctivæ congested, herpes around nose and lips, skin moist, hands cold; afterwards stupor occurred with nystagmus, opisthotonos, carphologia, muttering, restlessness, breathing shallow, slow and costal; was catheterised, urine clear, 1024, some albumin; patellar reflexes abolished. The temperature ranged from 96 degrees to 100.8 degrees, was over 99 degrees only twice, most of the time between 97 degrees and 98 degrees, taken in axilla. March 26 was a sort of turning point, when the pulse and temperature both rose; pulse for first time went over 100 and with few exceptions remained over that figure afterwards. Respiration went above 30 in latter days of illness. He became delirious, began to vomit, there was dysphagia, involuntary defecation and urination ; on the 26th, hiccough set in and continued at intervals; pus appeared on right eye. The post mortem examination showed some emaciation; bedsore on sacrum; several petechiæ-like spots on abdomen, arms and legs; muco-pus on each conjunctiva, crusts in nostrils. The brain showed congestion of piamater and purulent exudate in subarachnoidal spaces; similar exudate on spinal cord mainly. Lungs collapsed and anemic; pleurae empty, no adhesions; a little bronchial exudate in right lower lobe. Heart normal except a little fatty change in mitral valve; similar changes in aortic arch. Stomach and intestines normal.

Old peritoneal adhesions of ileum and colon and of liver to diaphragm. Some fatty degeneration of liver. Spleen small and pale. Kidneys pale; they and suprarenal capsules normal. Bladder empty.

The case seems to be an ordinary case. Source of infection not known. Dr. French made bacteriological examination.

DISCUSSION

Referring to the specimen of contracted kidney, Dr. Acker inquired as to the condition of the arteries.

Dr. Lamb replied that they were in a condition of marked sclerosis.

Discussion of Dr. Vaughan's paper: "A Few Surgical Cases in which the Roentgen Ray was used." See *National Medical Review*, May 1899.

Dr. McGee said that he wished to add one skiagraph to the splendid collection which Dr. Vaughan had exhibited. It showed plainly the displacement in fracture of the styloid process of the ulna.

Dr. Kober said that he hoped the society would hear from Dr. Shands, and Dr. Borden upon this subject. Only last Sunday he had seen a skiagraph in the possession of the latter.

Dr. Shands said he had had several cases in which skiagraphs had been made, which he had already reported to the society.

Dr. Borden said the value of the Roentgen Ray is now thoroughly understood, and he thought it should be used in all cases, where it was available.

Dr. Acker asked Dr. Borden whether he had ever been misled by a skiagraph.

Dr. Borden, in reply, said that he had been misled in one case only. He did not think the fluoroscope always reliable, or nearly as reliable as a radiograph,—the picture being too indistinct. In the one case referred to, a case of bullet wound, he used the fluoroscope, and thought he saw the bullet; but on operating, he found that what he had seen, was a misplaced fragment of bone. With photographic plates, and a good machine, however, there was little danger of being misled. But one must know how to interpret the picture. It should be remembered that the skiagraph is a shadow picture, and that the relative positions of the tube and fluoroscope may alter the appearance of the object radiographed. The observer should therefore try different positions to establish by projection the position of the object. The surgeon should either see the picture taken himself, or get a full report from the photographer, in order to gain an accurate knowledge of the positions in which the pictures were taken. He remembered one case of bullet wound of the shoulder, which was an illustration of this. The first picture by the fluoroscope gave the impression that the bullet was situated deeply in the chest: but when the tube was moved, to several places, the projection of the individual shadows gave an angle which showed that the bullet was near the anterior wall of the chest. Another interesting point illustrated by one of Dr. Vaughan's skiagraphs, where the iodoform gauze drain is shown, is that the iodoform on the gauze appears opaque in the picture. It should not, therefore be used over the region to be photographed. Water, bichloride of mercury solution, and metallic salts generally, are opaque to the rays. The necessity of probing wounds has been largely done away with since the discovery of the Rœntgen Ray.

Continued in October number.

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Therapeutic Notes.

La Grippe, Its Manifestations, Complications and Treatment.

Prof. W. W. Grube, A. M., M. D., of Toledo, O., sees no reason why the intelligent observer need err in his diagnosis of la grippe; he believes that the intensity of the catarrhal symptoms, the great prostration, and tardy convalescence form a typic clinical picture. Though the catarrhal symptoms are usually limited to the respiratory mucous membrane, they are not always so, and in the writer's experience the invasion of the mucous membrane of the digestive tract has been quite frequent. Not alone mucous membrane, but a part or all of the cerebro-spinal axis has been invaded.

In many cases the so-called complications are simply an extension and aggravation of the catarrhal or inflammatory condition; thus an extension of the usual inflammatory condition of the throat through the Eustachian tube produces middle-ear complications; the bronchitis, too, may extend and become capillary, or even a pneumonitis may result. So we believe that in the so-called abdominal form with severe gastro-enteric catarrh, it may extend by contiguity and inaugurate a general peritonitis. Upon this theory alone can we explain the supervention of a severe general peritonitis in a case under our care, now happily terminating in convalescence.

The patient was a girl of 11 years who had never been seriously ill before. Twenty-four hours after the illness began, she had, besides the usual alarming symptoms of la grippe, a high temperature, wild delirium, constant emesis, frequent and copious discharge of feces and urine. The appropriate remedies were prescribed, the vomiting ceased and she rested; but on the third or fourth day she developed symptoms of peritonitis, abdominal pain, hardness and some tympanites, etc. Calomel was prescribed, twenty grains divided into four powders, one every three hours; also the usual turpentine stupes, morphia to quiet pain, etc. The next day, finding no improvement, but rather aggravated symptoms, green vomit, bowels not moved—a very gloomy prognosis was given, and at the family's request a consulting physician was called, who concurred in diagnosis and prognosis, and had nothing more to suggest. On the writer's return in the evening, however, he decided in view of the great mortality of these cases by the routine treatment, to try the local application of a mustard poultice; also for their germicidal, antiseptic and healing qualities, he gave internally Hydrozone diluted, in frequent doses, alternating with doses of Glycozone. In twenty-four hours there was slight improvement. In forty-eight hours the patient was decidedly better. Improvement continued, and the girl was so well February 21st. that she was dismissed as cured.

Perhaps the most common complication in children is the middle-ear inflammation caused by extension of the pharyngeal catarrh up the Eustachian tube into the tympanum. In the case of a child six months old, recently under our care, we had a middle- ear complication; in which the pain was controlled by the usual methods and by the instillation into the aural canal of a few drops of cocaine solution. After suppuration occurred, however, the canal was cleansed by Hydrozone solution (warm), and a piece of absorbent cotton saturated with Glycozone used as a dressing by inserting it into the canal. As the ear complications sometimes prove very serious, it is gratifying to know that in the above remedies we have a safe, speedy and effectual method of cure. We believe also that, if these cases were seen early, by proper treatment the extension and consequent complications might be prevented. In a little girl with severe tonsilitis and pharyngitis we are now spraying the throat with diluted Hydrozone and applying Glycozone with such marked benefit that on this, the third day of treatment, she is almost well. *Jour. Am. Med. Assoc.*, March 25.

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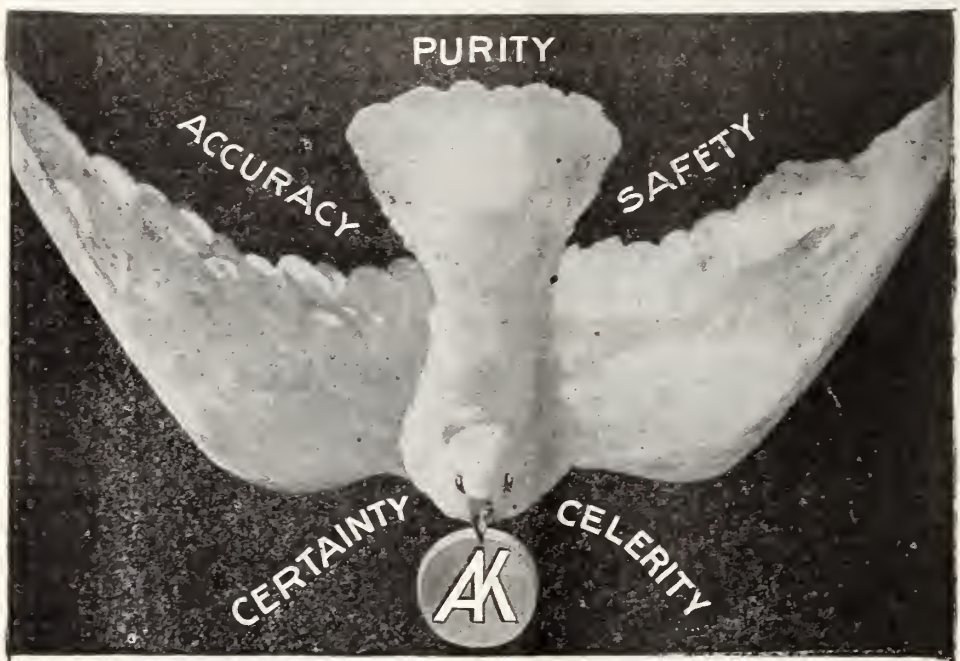

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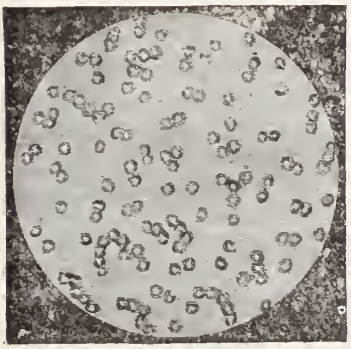

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To induce catharsis without the objectionable sequalæ common to a majority of laxatives, no remedy responds to the need of the physician with more satisfaction and celerity than SYRUP OF FIGS. As made by the California Fig Syrup Co. from the highest grade Alexandria Senna, SYRUP OF FIGS has achieved a potency and recognition as an agent of established therapeutic worth. There is no preparation that simulates Nature so well in its effect. No other is better suited to the permanent relief of intestinal inactivity, a functional derangement directly responsible for the condition described as constipation. Its gentle effect upon the intestinal mucous membrane and the natural peristalsis which follows the administration of SYRUP OF FIGS gives to it a unique value as a laxative, and suggests its adaptability to women and children because of its agreeable taste and persuasive action. It is invaluable to persons who through infirmity or occupation are committed to a sedentary life. It is *simple, safe* and *reliable*, and possesses the particular merit that its use does not induce the cathartic-taking habit, and in all cases where a laxative is indicated it is a help and not a hindrance.

SPECIAL INVESTIGATION IS SINCERELY INVITED.

"Syrup of Figs" is never sold in bulk. It retails at fifty cents a bottle, and the name of "Syrup of Figs," as well as the name of the "California Fig Syrup Co," is printed on the wrappers and labels of every bottle.

CALIFORNIA FIG SYRUP CO., SAN FRANCISCO; LOUISVILLE; NEW YORK.

A Famous Expression.

Prof. Gibson, one of the pioneers in the development of scientific medical teaching in the United States, was asked, by one of his students at the University of Pennsylvania, how to obtain a comprehensive, accurate knowledge of medicine that would enable the physician to make a correct diagnosis, and execute proper treatment. Dr. Gibson's reply has become inseparably connected with his name and memory. It was "Principles, principles, principles." By this, of course, was meant that however varied were the manifestations of disease, they were to be comprehensively grasped only by a knowledge of the fundamental principles of physiology, pathology and therapeutics. The symptoms of disease, however manifold, could be intelligently interpreted only on this philosophic basis. Strictly consistent with this inexorable law is the fact that all conditions of depression and exhaustion of the system can be appropriately and effectively treated only by re-awakening the dormant and torpid nutritive functions. The crying need of the emaciated tissues and impaired vital functions is for food, the natural restorative. In most cases, however, there is not only an indisposition to take food, but the digestive organs are so enfeebled that they cannot digest and assimilate food—their functions are suspended.

The first indispensable step is to restore these functions. The ordinary tonics—iron, arsenic, strychnine, hypophosphites, etc.—fail entirely to accomplish this object. Cod liver oil is the heaviest burden on even the strongest digestive powers to prepare for assimilation; on the atonic stomach it is an irritant—it aggravates the existing trouble. The digestive organs must be gradually coaxed into a condition of restored functions; they need stomachic alteratives, tonics and stimulants.

The best of these, as proven by experience, is Gray's Glycerine Tonic Comp. It has a specific, selective action upon the atonic digestive organs; it not only enables them to digest food, but it invariably promotes assimilation, so that reconstruction of wasted tissues and nervous force is absolutely assured. For this reason Gray's Glycerine Tonic Comp. is the most rational, scientific and effective remedy in all conditions of malnutrition, anæmia and nervous exhaustion, occurring either independently as a consequence of organic disease, such as tuberculosis, Bright's disease, or as the result of acute infectious diseases.

A Want Felt and Filled.

If the doctor had never accomplished anything more definite in his life work than the relief of pain, than amelioration of human suffering, he would not have lived in vain. It is all very well to say that pain is physiological, that it is the cry of the nerve for more blood, yet its continuance cannot be borne by the patient, even by the most heroic Spartan. Long continued pain is dangerous, and while of course we never wish to obtund and remove it so completely as not to be able to ascertain its cause, and remove the same, yet, the best interest of our patient requires from time to time the administration of that which is opposed to pain. Remedies like opium which relieve the pain and at the same time are exhilarating and alluring in their effects are most oft-times dangerous in the remote demoralization which they produce upon our patient. A remedy for the relief of pain which does not tie up the secretions, which carries with it no exaltation and no fascinations which tend in the direction of developing drug habits is a desideratum. Five-Grain Antikamnia Tablets certainly meet this necessity. Antikamnia is also more prompt and decided in its action in labor than opium, and has none of the unpleasant after-effects. It may be continued in smaller doses to control after-pains, and rather favors than interferes with the secretion of milk.

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M. Ft. pil. No. VI. Sig. One pill every two hours.—*Eid.*

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A Reliable Digestive Ferment, indicated in Faulty Digestion and Cholera Infantum.

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THE MILLER RUBBER MANUFACTURING CO.,
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American Progress.

Progress in America in many of the arts and sciences has been more rapid and of more material benefit to mankind than has that in most European countries. A striking instance of the truth of this statement is to be found in the fact that scientific investigation by unbiased authorities has proven the vast superiority of Mulford's Concentrated Diphtheria Antitoxin over the well known German serums. The American Pediatric Society's report proved conclusively that Mulford's Antitoxin is the best in the world. The same fact is conclusively demonstrated by the official report of the Ohio State Board of Health as published in their official organ, "The Ohio Sanitary Bulletin." In the latter investigation especial efforts were made to determine the comparative values of the various foreign and domestic antitoxins. The figures as published in the above-mentioned journal prove beyond doubt that not only does Mulfords' Antitoxin yield by far the highest percentage of recoveries from diphtheria, but is the most extensively employed. Mulford's Concentrated Diphtheria Antitoxin has been officially adopted by the vast majority of state and city boards of health in the United States, Canada, South America, Hawaiin Islands, China, Japan and the Orient generally. It is furnished in an ideal package and is always of uniform strength and reliability.

Catarrhal Conditions.

A leading throat specialist of Washington said the other day that he was well informed as to the virtues of Firnol. It is especially useful to those suffering from Coryza, Atrophic Rhinitis and Hay Fever. Two atomizers in one box generally go with a bottle of Firnol, one, dark colored, for Firnol Compound, the other, for any cleansing solution.

Carbuncle of the Back of the Neck.

Interstitial injections of germicides in cases of anthrax of the nucha are no novelty, but their efficacy in an affection which is sometimes very grave deserves to be mentioned from time to time. At a recent meeting of the National Society of Medicine of Lyons (*Lyon medical*, July, 23d) a case was related in which there had been signs of septicæmia, the patient being mildly delirious and having a temperature of 104° F. A one-per-cent solution of iodine, made with the aid of potassium iodide, was injected at five different points, and the injections were repeated in three days. The patient recovered. *New York Medical Journal.*

Rectal Injections of Saline Solutions in the Treatment or Hemorrhage, Shock, and Infections.

Lépine (*Lyon Medical*, No. 18, 1899) closes a thesis on this subject with the following conclusions: There are two classes of phenomena dependent upon such injections. The first are physical or chemical, and correspond to those incident to blood transfusion, or the transfusion of artificial serum. The second are purely physiological and are not clearly understood. Intravenous and subcutaneous injections are not absolutely free of danger, and are somewhat difficult of application. Absorption of the saline solutions by the rectal mucous membrane is as easy and rapid as that which takes place when the solutions are injected beneath the skin. The therapeutic effect of the rectal injections is precisely the same as that of subcutaneous inections. The strength of the solution varies according to the indications. *Therap. Gaz.*, 1899, xxiii, 556.

Hypo-Substitute for Opiates.

Dr. Obe F. Watlington, of Memphis, Tenn., writes in the Medical Brief: "I have in my possession a hypodermic alkaloidal solution, which is a specific in drug addictions (opium habituation, alcoholism, etc.). On receipt of a two-cent stamp, I will take pleasure in furnishing any of the medical profession the formula, by the use of which, a number of the fraternity have been enabled to cure themselves of opiumism, alcoholism, and insomnia. I used morphia hypodermically for ten years. Obtained a perfect cure by this prescription."

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It will give us pleasure to send, prepaid, samples of

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to any physician in good standing who wishes to satisfy himself of its therapeutic value and elegance.

THE MALTINE COMPANY,

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The After Treatment of La Grippe.

Dr. J. S. Moreman, of Louisville (*Medical Progress*, August, 1899,) called attention to the profound anaemia following la grippe, and especially seen in patients who were in robust health before the attack. The extent or gravity of the anaemia is not in proportion to the severity of the acute state, but is seen more frequently after a mild attack which lasted longer than usually, from two to three weeks. This anaemia is not due so much to the destruction of the red blood corpuscles as to a diminished production, for a microscopical examination of the blood shows that the number to the cubic millimeter is less than normal, although their appearance seems to be healthy. The aim of the treatment should therefore be to increase the number of the red blood cells by proper nourishment, and by the administration of drugs which have a specific effect in this direction. The food should be such as requires the least effort in its digestion, and, at the same time, such as is readily assimilated. The author finds that the best food and iron preparation in this class of cases is ferro-somatose, which is comparatively tasteless, and easily digested and assimilated. In the cases reported by Dr. Moreman there was not only a marked improvement in the anaemia, but also a considerable gain in weight within a short time. Furthermore, ferro-somatose never deranged the digestion, and had no constipating tendency.

Affections of the Nose and Throat.

In the variable weather which has been prevailing for some time all over the country, every one is more exposed than ever to catarrhal diseases. Firnol is an efficacious remedy for these troubles, and it was especially devised for physicians' prescriptions in treating affections of the mucous membrane of nose and throat by means of spraying. It is not a secret nostrum, but every ingredient is made known to the doctor. W. C. Downey and Co. of Washington, D. C. will be glad to furnish literature and samples.

At the meeting of the British Medical Association held in Montreal in 1897, a very prominent physician of London, England, who was examining the exhibit of Nebulizers, Air Compressors, etc., made by the Globe Manufacturing Co., remarked to a friend,—"the Americans are away ahead of us in these lines." Globe Nebulizers are extensively used the world over and have long been recognized as the standard instruments of their class.

A number of new styles have been brought out recently, both in single and multiple nebulizers and combinations with air receivers, tables, etc. No physician can afford to be without one of these outfits, as they are of inestimable value in the treatment of diseases of the nose, throat, middle ear, bronchial tubes and lungs.

Full particulars will be furnished on application to

The Globe Manufacturing Co.,
Battle Creek, Mich.

Faradization in the Treatment of Pruritus Vulvae.

By Dr. B. I. Nemiroosky (*Rev. Internat d' Electrotherap, etc.*, No. 5, 6, and 7, 1898-99, p. 200.) In two cases of pruritus vulvae of obscure origin—"essential pruritus"—excellent results followed the faradic treatment. From the beginning—the séances lasting fifteen minutes—the symptom improved and disappeared completely after twenty-five to thirty sittings. One of the patients was 58 years of age and had suffered a year; the other case was 26 years old and the trouble dated back three months. In both cases the usual anti-pruritic measures had been faithfully tried without avail.—*Post-Graduate.*

Dr. Louis W. Dunavan, of Chicago, says: I have prescribed "Maltine with Coca Wine" with great benefit as a general tonic and to counteract the prostration incident to intestinal hæmorrhage from severe internal piles. No other preparation of many used has offered such relief as "Maltine with Coca Wine."

DISTINGUISHED CHEMISTS

SUCH AS PROF. WILLIS G. TUCKER, OF THE ALBANY MEDICAL COLLEGE; PROF. WALTER S. HAINES, OF THE RUSH MEDICAL COLLEGE; PROF. JEROME H SALISBURY, OF THE RUSH MEDICAL COLLEGE; PROF. JOHN C. SPENZER, OF THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS; PROF J. W BAIRD, OF THE MASSACHUSETTS COLLEGE OF PHARMACY; PROF. W. C. BENNETT, OF THE WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS; AND DR. WILLIAM D. HORNE, OF YONKERS, CERTIFY THAT MALTZYME IS SUPERIOR IN DIASTASIC POWER TO ANY MALT PREPARATIONS HERETOFORE PRESENTED TO THE MEDICAL PROFESSION, AND WHAT THEY SAY IS BASED ON ANALYSES. WE WILL BE PLEASED TO SEND YOU THEIR REPORTS.

EMINENT THERAPEUTISTS

HAVE DECLARED THAT MALTZYME IS MORE READILY TAKEN BY THEIR PATIENTS THAN THE CRUDE, THICK, GUMMY PRODUCTS WHICH, THOUGH OF UNDOUBTED VALUE, REPRESENT PROCESSES NOW HAPPILY IMPROVED UPON.

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HAVE FOUND MALTZYME PREPARATIONS JUST WHAT THEY DESIRED IN THEIR PRACTISE, AND ALL FOUR PREPARATIONS, VIZ., MALTZYME (PLAIN), MALTZYME WITH COD LIVER OIL, MALTZYME WITH CASCARA SAGRADA, AND MALTZYME WITH HYPOPHOSPHITES ARE BEING CONTINUALLY PRESCRIBED BY THE LEADING MEN IN THE PROFESSION. IN DIRECTING YOUR PATIENTS TO PURCHASE MALTZYME, BE SURE TO INSIST UPON THE PROPER PRONUNCIATION OF THE WORD, I. E., MALTZYME (THE Y AS IN ENZYME). IF THIS IS NOT DONE, YOUR PATIENT MAY HAVE SOME ANTIQUATED PRODUCT HANDED TO HIM MERELY BECAUSE IT IS ON THE DRUGGIST'S SHELF. MALTZYME, BEING A NEW PRODUCT, WILL NOT BE FOUND IN ALL DRUG STORES SEE THAT YOUR PHARMACIST PUTS IT IN FOR YOU.

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Chionia for Bowel and Liver Torpor.

Under its use the Hepatic Secretions resume their normal function, hence, it is the remedy for constipation, as it does not dispose the bowels to subsequent costiveness.

Dose—One fluid drachm three times a day.

Peacock's Bromides for All Forms of Congestion.

Definite Strength. Absolute Purity.

Dose—One or two fluid drachms, in water, three or more times a day, as indicated.

PEACOCK CHEMICAL CO.,

112 N. Second St., St. Louis. 36 Basinghall St., London.

In the treatment of Nervous Diseases and General Debility, McArthur's Syrup Hypophosphites demonstrates its restorative powers. Here it is not the stimulating action of the remedies usually classed as tonics that is needed. The organic powers of the system are already taxed to their utmost ability to carry on the physiological processes of life. The hypophosphites of lime and soda gives the much-needed effect in these conditions—not that of a stimulant by irritation, but that of a true nutriment to the starving tissues. Its tonic effects are permanent as they are the effects of a richer blood supply, bringing healthy food and oxygen to the tissues. Thus the patient is gradually brought up to his normal condition.

Treatment in the Early Stages of Acute Appendicitis By Saline Aperients.

The treatment Dr. Maylard proposes, in the *Glasgow Medical Journal* for March, 1899, in the early stages of acute appendicitis is as follows :

1. Give copious warm soap and water enemata.

2. Administer hourly until the bowels move freely small teaspoonfuls of sulphate of magnesium dissolved in about two wineglassfuls of warm water.

3. Apply hot linseed poultices to the right iliac fossa.

4. Feed on whey, chicken tea, meat jellies, etc. *Therapeutic Gazette.*

LIKE THE BUILDING OF A HOUSE

WHEN a man builds a house he takes care to first prepare a firm foundation.

When a physician begins the treatment of an anæmic or chlorotic patient, he must first consider the "building of the blood," the fountain and foundation of healthy life.

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THE

NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., OCTOBER, 1899. No. 5.

Original Articles.

THE PROPER TREATMENT OF CANCER OF THE UTERUS IN ITS EARLY STAGES.

BY J. WESLEY BOVÉE, M. D.,
Washington, D. C.

Cancer of the uterus is yet and will be for a longer time than I care to estimate, a source of great dread to patients and friends. Various reasons enter into the causation of this dread. Cancer involves any and all parts of the human body, and, of course, in most vital parts its removal at a stage late enough for diganosis is absolutely impossible. In a very large majority of cases its attack on parts not necessary to life is not brought to the attention of the surgeon until its eradication by any known means is impossible. The diffidence and secretiveness of some women also tends largely toward the same result. A woman will have an enlargement in a breast or marked uterine lesions and go on suffering from them without mentioning them to even a most intimate friend. The time for relief has passed when by accident the trouble is made known. A new element now enters into consideration of this matter, one perfectly needless and the existence of which is a smirch on the profession of medicine. I allude to the course often pursued by the family physician of cancer patients. He may not even suspicion cancer or may believe (justifiable previous to the last ten years) surgery cannot cure cancer and for that reason contents himself with palliating and from the first prepared to write a certificate of death. I believe, however, a majority of physicians now in general practice and who see these patients first are alive to the importance of the matter and are earnestly endeavoring to avoid deaths from carcinoma resulting from the above mentioned causes. All these matters conspire to make, from the surgeon's standpoint, a classification of cancer of the uterus something like this: 1. Incurable or absolutely hopeless; 2. Hopeful. The latter class may be subdivided into (a) doubtful and (b) nearly positively curable. It cannot be said that any given case of cancer in any part of the body can be absolute cured, hence the reason for using the word "almost" in the latter sub-class. We know, however, of the quite large number of people living five to twenty years after eradication of cancer and in which the diagnosis was not based on fancy or clinical manifestations. These being absolutely cured this latter sub-class is but fair. The doubtful cases are of the greatest importance inasmuch as this class means cases in which there is hope if prompt and bold work is done and in

which the balance will drop to the other side of the scales if palliative work is practiced. The great majority, while not yet in this hopeful class, probably will be in it during the life time of many of us. I will not now attempt to suggest remedies to correct the unfortunate circumstances that hedge about the proper treatment of this disease, having made that the subject of a paper read before the Medical Society of Virginia in 1897, in line with the excellent suggestions of Kelly, Myers and others. For the skeptics concerning the success of surgical treatment of this disease I wish to mention, but not apologetically, that proper surgical treatment of cancer of the uterus has not been practiced but a few years. I regret some surgeons yet cling to amputation of the cervix for cancer of that portion of the uterus. Its employment for that purpose is not as encouraging or reasonable as attempts at making an ocean from separate rain drops. It has done so much, too, toward generating opposition to surgical treatment of this disease. The next step toward radicalism, the proper direction, is vaginal hysterectomy. This is an operation that has cured many, but the best of all, in properly selected cases, is abdominal hysterectomy with broad exsection and this is of quite recent date.

Now what may be offered to the skeptics to illustrate their irrational position? Happily they are few and getting fewer. We may tell them the mortality of vaginal hysterectomy for cancer has been reduced from ninety per cent to two per cent. Leopold found in 76 cases of vaginal hysterectomy of his that remained under observation, 72 were still well from one to five years after operation. Martin found that of the 16 cases operated by him before the end of 1882, 8 remained healthy at the end of 1884. Fritsch had thirty-six per cent of cures at the end of five years. Hoffmeier found thirty-three per cent of his cases free of the disease at the end of four years and Schauta found 47.3 per cent free at the end of two years. Olshausen at the end of the same period of time had 19 exempt out of 40 cases. Much more can be offered in this way to demonstrate the superior results of this operation in carcinoma uteri. As the operation is now empolyed in only hopeful cases later statistics should be still better.

But what of the more radical operations for this disease. The abdominal route is selected because it admits of more radical extirpation with less injury to the remaining structures in the vicinity. Kelly has done some most excellent work in this direction as has Werder, of Pittsburgh. It is yet too soon to give results from this procedure except in a small number of cases. It is not unreasonable, however, to expect recurrences after such operations to be much fewer.

Vaginal hysterectomy I would reserve for very early cases of cancer of the cervix in which the general condition of the patient would seem to be able to stand it better than the abdominal operation, and in those in which prolapsus is extreme. Very doubtful or suspicious cases may be subjected to this route. This may be illustrated by the following case:—Mrs. K. white, 48, widow, menses regular and normal up to 6 months ago then ceased for two or three months and has been nearly constant since. Patient feeble and suffering from arythemia cordis. An examination revealed a slightly eroded cervix. As the uterus and surrounding structures were

apparently normal I did vaginal hysterectomy and removed a cystic ovary with considerable of the broad ligaments March 27, 1899, using catgut sutures. After running two quarts of hot normal salt solution into the peritoneal cavity through the opening and with the patient in Trendelenburg's position, the opening was closed. She left the hospital April 14th, and thus far has had no return of the disease. The uterus was sent to Dr. Carroll of the Army Medical Museum, for microscopical examination. His report on it was as follows:

"The cervical tissue shows only an indurated hyperplasia without any indication of malignancy. In the cavity I found a flattened polypoid mass half an inch long and a little less in breadth, projecting from the fundus. Sections were made through this into the wall of the fundus and the following is the microscopical diagnosis: Glandular polypus invading the underlying tissue as an adeno-carcinoma. The growth is undoubtedly maligant."

Whether this operation removed all the disease can only be determined by time. I feel certain, however, the patient could not have recovered after a broad abdominal extirpation

For carcinoma of the uterus I have done broad abdominal extirpation of the pelvic structures but six times, all the patients recovering from the operation. In one of them the lowest two inches of the ureter was exsected as it passed through a cancerous mass that had caused a considerable dilatation of the duct above. This was remedied by a bladder transplantation The operation was done April 4, 1898 and the patient is now in excellent health and has increased in weight from 160 to over 200 pounds

The operation I have followed is practically as described by Werder (*Amer. Jour. Obstet.*, 1898, xxxvii, 289.) which consists of a very broad extirpation not only of the uterus and broad, round and utero-sacral ligaments, but nearly all the vagina as well. To me this seems the best operation yet devised for eradication of cancer of the uterus. Time alone can demonstrate its superiority, but from the good results of the radical abdominal operations that have been done during the past six years, the return of the disease, or, better the failure to eradicate it in properly selected cases should be in but a very small percentage.

THE NATIONAL MEDICAL REVIEW,

EDITED BY

GEORGE W. JOHNSTON, M. D., and THOMAS E. MCARDLE, M. D.,

AND

THE MILITARY SURGECN,

A SUPPLEMENT.

OFFICE: 1134 Fifteenth Street, N. W.

WASHINGTON, D. C., OCTOBER, 1899.

Editorial.

Readers of medical journals have recently been favored with full accounts of what certain medical gentlemen thought of each other; and letters of crimination and recrimination, couched in very strong and picturesque language, have, in some instances been printed at length. One well known physician has dignified another with the pleasing appellation of "pale gray ass," and other polite amenities of a similar character have been freely exchanged.

All this is of course very entertaining, but some of us prefer medical journals devoted solely to medicine and do not read them with the idea of perfecting our knowledge of the language of insult and vituperation.

If the medical press of this country has one fault, it is that it is not sufficiently impersonal and abstract. Descriptionsof scientific discoveries that are made or whose value is comfirmed or disproved; generalizations based upon original investigation or accumulated experience, and other matters of a purely scientific character, find a fitting place in the columns of a medical periodical, and weeklies appropriately chronicle the news of scientific bodies, of universities, of the health of municipalities etc. Editorial comment upon facts or fads in medicine is not out of place; but personalties may be left to the secular press, and undignified and abusive personalities should not be written or published by any respectable and self-respecting editor.

We again express the hope that the *Index Medicus* may not be permitted to perish. To every one who would write carefully and fully upon any medical topic, it is an invaluable aid. It is not ouly a repository of immeuse value to the reader and the author, but is a force in itself. It teaches a most valuable lesson. Let every one who has attempted to search out the references given in text-books and journal articles, think for a moment of the labor it has cost him; names and letters misquoted or mispelled, the date of publication, the number of volume and page, erroneously or imperfectly set down. In the *Index Medicus*, all is as clear as crystal, and what is sought may be found easily and quickly.

To quote a reference fully and correctly is the duty of every medical writer.

Notices and Reviews.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By Dr. D. Braden Kyle. W. B. Saunders. Philadelphia. 1899. Price, cloth, $4.00 net. Sheep or half Morocco, $5.00 net.

In this book it is the aim of the author to present the subject of diseases of the nose and throat in as concise a manner as is compatible with clearness. The arrangement differs somewhat from that of many other text-books on this subject, diseases being classified according to the pathological alterations caused by them. Some of the chapters show repetition; but this is due to the desire of the author to make each chapter complete in itself. While there are many things in the work that may seem superfluous to the specialist, yet since it has been prepared for the student and the general practitioner as well, there is a necessity for this fulness and apparent repetition. The classifications of some of the subjects may be questioned, for example, rhinoscleroma under specific inflammations; but as a complete identification of the etiology of this condition has not yet been estimated, it was no doubt convenient to place it under specific inflammatory processes. The lithographs and illustrations were made from specimens prepared by the author in his own laboratory. In treatment, specific directions are given for definite conditions. The doses given sometimes seem positive, even dogmatic, but they are generally indicated by the symptom to be relieved.

THE AMERICAN POCKET MEDICAL DICTIONARY. Edited by Dr. W. A. Newman Dorland. Second edition, Revised. W. B. Saunders, Philadelphia. 1899. Price $1.25 net.

The first edition of this valuable little volume was exhausted in six months. The editor has availed himself of the opportunity afforded by a new edition to correct a few typographical and other errors and to insert a number of the more important new words added to medical literature during the past few months. The book represents, as far as possible, the present state of medical lexicography and is well worthy of purchase.

THE TREATMENT OF PELVIC INFLAMMATIONS THROUGH THE VAGINA. By William R. Pryor, M. D. W. B. Saunders, Philadelphia. 1899. Price $2.00 net.

This little book is an elaboration of what Prof. Pryor has said and done before his audiences at the New York Polyclinic. The doctor seems to think that there exists in the profession a great deal of confusion regarding the most successful methods of treating pelvic inflammations, and he here makes a special plea for the vaginal route in treatment. Whilst all will agree that inflammatory lesions constitute the majority of all pelvic diseases, yet all are not agreed as to the best method of treatment and even the book before us will not convert those who have done such wonderful things with such marvelous success through the abdominal route. Each route will continue to have its staunch advocates and we take it that conversions will be few. Dr. Pryor's book, however, is forcibly written and is well worthy of careful consideration.

THE HYGIENE OF TRANSMISSIBLE DISEASES. By Dr. A. C. Abbott. W. B. Saunders, Philadelphia. Price $2.00 net.

The sub-title of this very important work is: "The Causation, Modes of Dissemination, and Methods of Prevention of Transmissible Diseases." Dr. Abbott is so well known as an authority on the subject of hygiene, that anything emanating from his pen is always well received by the profession. He does not claim to present in this book the subject of hygiene in the comprehensive sense ordinarily implied by the word, but rather to deal directly with but a section, certainly not the least important, of the subject, viz., that embracing a knowledge of the preventable specific diseases. Incidentally as the occasion presentsitself, he

discusses those numerous and various factors that have not only a direct bearing upon the incidence and suppression of such diseases, but that are of general sanitary importance as well. The hygiene of typhoid fever is thoroughly discussed and a resumé of various epidemics with accompanying maps is given. After giving careful directions for prophylaxis in whooping cough, the author says: "When the weather permits, the patient shall have the freest possible access to fresh air, sunlight, and moderate outdoor exercise."

COAKLEY ON THE NOSE AND THROAT. THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE NOSE, THROAT, NASO-PHARYNX AND TRACHEA. By Cornelius G. Coakley, M. D. Cloth, $2.75, net. Lea Brothers & Co., Philadelphia and New York. 1899.

This Manual of Laryngology is intended to answer the needs of students as well as practitioners. Special attention has been devoted to the more practical sections, namely, those on Diagnosis and Treatment. Ample guidance is given the student in microscopical and bacteriological investigations and examinations of patients, the importance of which is now regarded with much increasing emphasis. In the matter of treatment the author has selected those operative and therapeutic measures which his judgment and experience have taught him to be best, and full details are given for the benefit of those who have not had the advantage of personal clinical instruction.

PULMONARY TUBERCULOSIS. Its modern Prophylaxis and the Treatment in Special Institutions and at Home. Alvarenga Prize Essay of the College of Physicians of Philadelphia, for the year 1898, revised and enlarged. By S. A. Knopf, M. D. With descriptions and illustrations of the most important Sanatoria of Europe, the United States and Canada. Octavo. Price net, $3.00. P. Blakiston's Son & Co. Philadelphia, Pa.

The author's object in presenting this book to the English-speaking medical world is to give the latest thought of the leading European and American hygienists, sanitarians, and physicians on the subject in question in addition to the results of his own studies and researches in the field of physio-therapeutics. The book does not claim the title of a text-book, but we feel convinced that it will aid the sanatarian and the hygienist in their labors to combat the spread of tuberculosis. The text for the introduction is Pasteur's assertion that it is in the power of man to cause all parasitic diseases to disappear from the world. Even in the times of Hippocrates we learn that "The greatest and most dangerous disease, and the one that proved fatal to the greatest number, was consumption." To-day it is generally conceded that one-seventh of all deaths are due to consumption and that one-sixth of all mankind is tuberculous; yet it is the author's hope, through the general and family physicians to teach the public at last that consumption is, indeed, the most preventable and curable of diseases. And this man is no dreamer, he has evolved no scheme from his inner consciousness. He is nothing if not severely practical. He takes nothing for granted but investigates every phase of the subject. His early medical career began in Los Angeles, California. There he saw thousands of consumptives from all over the United States. Winter after winter they flocked thither, many of them hopelessly advanced in their disease, others with insufficient means to enable them to be idle long enough to get well, all believing that the glorious climate alone would suffice to restore them to heaith. He was soon impressed with the urgent need of a more timely and systematic treatment independent of climate. He learned the differences between sanatorium and health-resort treatment by an extensive trip in which he visited, in both continents, thirty sanatoria, special hospitals, and numerous health resorts devoted exclusively to the treatment of pulmonary tuberculosis. After a thorough study of the results of treatment of consumption in its various stages by what is commonly known as culture products, tuberculines, etc., he yet prefers the hygienic and dietetic

method in either a closed establishment or under careful medical supervision at home. Where every chapter is a gem, it seems invidious to make distinctions. Two of the most valuable, perhaps, are those on aërotherapeutics, rest cure, and exercises, and dietetic treatment of pulmonary tuberculosis. The author is most enthusiastic upon the subject of tropon, the albumen nutriment first brought to the attention of the world by Prof. Finkler of Bonn, at the Ninth International Congress for Hygiene and Demography, held in Madrid, April, 1898. Dr. Knopf says: considering that tropon is really an able substitute for the albumen is other foods, that it rarely causes digestive disturbances, that it can be taken for a long period of time without aversion, and that it is excessively cheap, we may look upon this new product as a most valuable adjuvant in the dietetic treatment of phthisical patients. In speaking of climato-therapy, the author contends that it is essential to the majority of tuberculous patients to be treated and cured in the same or nearly the same climate as that in which they will have to live and work after their restoration to health. The descriptions of the various sanatoria, both at home and abroad, are of special interest and add much to the value of a book which should find a place in the library of every doctor in the land.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS. By Dr. Arthur R. Cushny. Lea Brothers & Co., Philadelphia. 1899.

The sub-title of this book is: The action of Drugs in Health and Disease, and we take great pleasure in declaring that the author has succinctly delineated his sub-title on every page from first to last. This volume is to be commended for various reasons. It is written, in the first place, to teach the subject of pharmacology to students who have completed the purely scientific branches of medicine and are beginning their clinical studies. It bridges over the hiatus which exists between the phenomena occurring in the normal organism and those which are elicited in the therapeutic use of drugs, to show how far the clinical effects of remedies may be explained by their action on the normal body, and how these may in turn be correlated with physiological phenomena. It necessarily follows that the subject is treated from the experimental standpoint, and that the results of the laboratory investigator are made the basis of almost every statement. Where these fail to elucidate the therapeutic effects or even to suggest a possible explanation, Dr. Cushny prefers to leave the question undiscussed rather than to call on such occult *dei ex machina* as alterative or tonic actions. There is a more or less complete bibliography appended to each chapter. As regards the scope of the work, the author gives the present standpoint of knowledge of such bodies as are of therapeutic or toxicological interest, and also of those which, possessing in themselves no immediate interest in practical medicine, have thrown important light on biological problems, and are accordingly likely to be referred to in scientific literature. Dr. Cushny, in common with the more advanced teachers of medicine, has very properly abbreviated the list of remedies. The drugs now generally employed may be enumerated in units where they were once counted in scores. There is still a tendency, however, even among the educated to ascribe therapeutic virtues to every new weed and every new product of chemical industry, and the teacher of pharmacology must not only point out the good, but has the more ungrateful task of condemning the worthless. The period of constructive pharmacology has scarcely dawned; at present its chief function is destructive and critical.

Progress of Medicine.

The Organotheraphy of Diabetes by Means of Liver Extract.

In the treatment of diabetes up to the present time better results have been attained by the use of liver extract than by means of pancreas extract. Gilbert and Carnot (*Lyon Medicale*, February) report on a series of cases in which they were able to produce a decided reduction in the amount of sugar excretion. Linnosier discusses two cases of diabetes in which the liver extract was administered but without appreciable amelioration of the symptoms. Both of these were, however, aggravated forms of the disease. *Med. Rec. N. Y.*, 1899, lvi, 304.

Constipation in Children.

Constipation in infants (*Medical Press*, July 5, 1899) is the practitioner's bugbear. He recognizes the unadvisability of the habitual administration of laxative drugs to the young, but is often driven to countenance their use by the paucity of the resources of which he disposes. It is important to bear in mind that constipation in infants is due in large measure to the element casein, which, if it be present in milk in larger proportion than normal, as compared with the fatty elements, tends to interfere with the due performance of the digestive functions. A child fed on normal casein, but with a low proportion of fat, will probably be constipated. In breast-fed children it does not follow that the proportions of casein and fat are normal, for the maternal supply may be faulty in this respect. Disturbances of health, especially in the direction of indigestion, on the part of the mother, will necessarily be reflected in the composition of the lacteal secretion, as can be demonstrated by analysis. The first step, therefore, must evidently be to regulate the habits and life of the mother. She must be placed on a fresh meat, fresh vegetable, and fresh cooked fruit diet, with due provision for regular exercise, and restriction in the matter of tea-drinking and other dietic irregularties. This régime will diminish the proteid and increase the fatty constituents of the milk and will go far to rid the infant of the tendency to constipation. Should it fail, the best treatment for the child is the administration of cream in doses of from one to two teaspoonfuls in warm water from time to time just before the periodical meal. Failing trustworthy cream, half a teaspoonful of cod-liver oil is a good substitute. In bottle-fed children the treatment of constipation is much simpler, for we have only to secure a due proportion of fat and proteid. It may be necessary in some cases to reduce the ingestion of proteid by giving cream, water and sugar mixture *vice* one or more of the ordinary meals of prepared milk. Dr. Kerley suggests a mixture of four ounces of cream with twelve ounces of milk, which will give four per cent of fat with a minimum of proteid. In older children the same care to secure a due proportion of fat in their dietary is equally imperative, for much of the constipation from which such children suffer is primarily due to a deficiency of fat. This is a point which ought to be attended to from the earliest period, because, if allowed to continue, we get what may be called "fat dyspepsia." The administration of fat then becomes difficult, but the obstacle can usually be got over by a little perseverance. It is surprising how many persons at all ages declare themselves unable to digest fat. This is in many instances due merely to the formation of a habit; the stomach has been allowed to become unaccustomed to the digestion of fats, and until the tendency has been overcome the mere sight of fats excites repulsion. *Medical Age*, Detroit, 1899, xvii, 597.

Bolognini's Sign of Measles.

A. Köppen (*Centralbl. f. innere Medicin*, 1898, xix, 673,) states that Bolognini observed a peculiar symptom during an extensive measles epidemic in 1893. If the patient was laid on the back and the legs flexed so as to overcome the tension of the abdominal mus-

cles, and both hands were laid on the abdomen, alternately lightly pressing the tips of the three middle fingers to the right and left side, gradually exerting pressure on the abdominal wall, he experienced the sensation of slight friction as though two rough surfaces were moved on each other under his fingers. Sometimes this locality was altogether circumscribed, again the whole anterior abdominal wall presented this phenomenon. When too great a pressure was made this friction would frequently disappear, as also when long observed.

He only found it absent in 2 out of 200 examinations. This symptom proved to be one of the very earliest prodromal symptoms, and may be even demonstrated before the appearance of the exanthem on the mucous membrane of the pharynx. Its duration was various, as a rule, keeping step with the exanthem of the skin. At no time were any peritoneal symptoms conjoined with it. The cause of this symptom, according to Bolognini, is probably a slight exanthem of the peritoneum, which never leads to serious symptoms of inflammation or irritation, but is a positive diagnostic sign. In 120 school children the sympton was absent, excepting in a few who had only recently recovered from measles.

Köppen has experimented along this line also in an epidemic which ran its course during the past winter, making 343 examinations in 316 children. One hundred and fifty-four of these gave positive results. He did not feel any friction sensation, it is true, but a crepitation, as in emphysema of the integument. That what he felt under the finger was air, he could frequently convince himself, when he allowed the finger quietly to remain in position for a little while; the fine crepitation gradually became coarser, a movement as of bubbles rising could be felt, and finally a daily intestinal sound was heard.

Bolognini's explanation of this symptom was from the beginning unsatisfactory. Why should a friction sound be produced from an exanthem on pressure upon the abdominal wall, why did this phenomenon continue from the prodromal stage up to the time of perfect convalescence? It is the intestine and its contents that cause this crepitation. Köppen, in fact, found, even, on superficial examination, that some of these patients suffered with diarrhea, which was, as a rule, "foamy" or "spongy," according to the friends of the patient. These abnormal intestinal contents more or less fluid, and mixed with finely divided air, were the source of Bolognini's symptom.

Frequently enough the examination resulted negatively, it is true. This diarrhea, which, as a rule, occurred already before the exanthem appeared and generally disappeared afterwards, did not in all cases contain air, furthermore the symptom was recognized also during normal stools, while it was occasionally absent in "foamy" diarrhea. This was all due to some cause. In many children of tenderest age relaxation of the abdominal muscles could not easily be obtained, and Köppen desisted from his examination. Furthermore, he was, as a rule, only able to make the examination on the day of the appearance of the exanthem and often later, whereby many examinations became negative, and also many cases of diarrhea escaped observation which usually belonged to the initial symptoms. For the rest the facts were these, that the contents of the intestine were also characteristic in the beginnings; that, however, the gases and water had already been absorbed, thus depriving the movements of anything specific.

In healthy children this symptom is not met with by Köppen, but in individual cases with a morbid intestine it was. Bolognini may therefore be correct in having found this symptom frequently in measles; it is, however, not pathognomic of this disease, as it is due to the intestinal contents which are here usually changed. The cause of the peculiar intestinal catarrh it is not Köppen's intention to discuss.—*Pediatrics*, 1899, vii, 568.

Widal's Typhoid Reaction.

Kasel and Mann publish their observations on the Widal reaction in typhoid fever. They do not think that the method permits an early unequivocal diagnosis of the disease and are of the opinion that the contrary views of authors are based on inaccuracy of technic. They look upon the reaction as an immunity-reaction and not merely as a reaction of infection, as assumed by Widal. The agglutinins are not, however, the true immunizing substances and their quantity bears no definite relation to the degree of immunity. Among their cases were two in which the reaction remained in abeyance throughout the disease. They also observed two cases of croupous pneumonia in which the reaction occurred, but immediately subsided after convalescence. They endeavored to find whether there was any symptom of typhoid that bore any relation to agglutination, and found that there was only one, namely the relative slowing of the pulse. The cases with a relative slowing of the pulse showed in general a more marked agglutination. There appeared to be no relation between the gravity of the infection and height of the fever, on the one hand, and the time of appearance and intensity of agglutination, on the other. If the duration of the fever is compared with the strength of the reaction in cases of like severity, it is found that those presenting a strong agglutination are shorter in duration than those in which the reaction is weak. It may be said then that, due attention being given to the severity of the case, the stronger the reaction, the more favorable is the prognosis. The authors have made the test in 51 individuals who had had typhoid fever. In 20 cases the reaction was positive during the first year after the disease, and in 11 negative. Of those examined more than a year after the fever, 6 were negative and 11 were positive, one each after 14, 15½ and 17 months, and three after 4½, two after 4¾, and one each after 5, 10, 15 and 21 years. Of the cases in the first year after the disease, 64.5 per cent. were positive. Of 11 cases from the second to the fifth year after the disease, 8, or 72.7 per cent. were positive. If in a case suspected of typhoid fever, the reaction is very strongly positive, it is connected with the present illness and not with a former attack of the disease. The authors were not able to find that the reaction persisted longer after a severe than after a mild attack of typhoid fever. They believe that, like every other symptom of this malady, the reaction is not absolutely reliable, although in some instances it decides the nature of the case. In children under 7 years, the reaction is feebler than in older persons, and it disappears earlier; nevertheless, it is in children perhaps the most valuable sign of typhoid fever. The authors examined three nurslings whose mothers had had typhoid fever, the one shortly and the others some time before the pregnancy. The mothers gave a marked reaction, but the infants did not. They examined the milk of three healthy women who had never had typhoid fever, and in 2 of them also the blood. They found that the milk had only a slight agglutinating power. The milk of the 3 mothers previously referred to was examined with the following result: In one case the reaction was positive in the relation of 1:1; in the second, in the relation of 1:12, while in the third case the milk produced aggutination in the proportion of 1:50, although the patient had had typhoid fever 15 years before. The blood examined on the same day gave a weaker reaction than the milk. This is contradictatory to all previous experience, and the authors can give no explanation. For the question whether the agglutinins can be transferred with the milk, the last-named case is of importance. While the milk reacted positively in the relation of 1:50, the blood of the infant gave no reaction, even in the proportion of 1:1.—*Muench, Med. Wchnschr* [*Phila. Med. J.*, 1899, iv, 164.]

Influence of the Climacterium upon the Course of Cardiac Diseases.

Kostkewitsch studied the effect of the climacterium on 27 patients suffering

from cardiac diseases, and states that compensation disturbances are unusually frequent during this period. The patients were able to perform their household duties until the advent of the period, when they began to suffer from palpitation of the heart and shortness of breath. The symptoms, at first only intensified during the menstrual epoch, gradually increased in severity and continued without intervals of relief. As menstruation became less frequent the patient presented marked symptoms of vaso-motor disturbances, such as flushes, perspiration, vertigo, and muscular pains. Gradually the disturbances of compensation became more pronounced. Kostkewitsch observed that in patients with mitral insufficiency this became especially aggravated with the advent of the of the climacterium.—*Am. J. of Obstetrics*, 1899, xl, 421.

The Report of the Committee on Anti-streptococcic Serum in Puerperal Sepsis.

Conclusions: (1.) A study of the literature shows 354 cases of puerperal infection with a mortality of 20.6 per cent.; when the streptococci were positively demonstrated, the mortality was 33 per cent. (2.) Marmorek's claim that his antistreptococcic serum will cure puerperal infection is not thus far sustained. (3.) Experimental work has cast grave doubts upon the efficiency of the work, demonstrating that a serum which is obtained from a given streptococcus may protect that animal from that organism, but it is absolutely inefficient against another streptococcus. Thus the number of serums that may be prepared is only limited by the number of varieties of the streptococcus that may exist. (4.) Thus far the only definite result of Marmorek's work is the development of a method by which the virulence of streptococci may be increased to an almost inconceivable extent. (5.) Personal experience of the committee has shown that the mortality of streptococcus-endometritis, if not interfered with, is something less than 5 per cent, and that such cases tend to recover if nature's work is not undone by too energetic interference locally. (6.) We unhesitatingly condemn curetment and total hysterectomy in streptococcus-infection after full term, and attribute a part of the excessive mortality in the literature to the former operation. (7) In puerperal infections a portion of the uterine lochia should be removed by Doederlein's tube for bacteriologic examination, and an intrauterine douche of from 4 to 5 liters of sterile salt solution given just afterward. If the infection be due to streptococci, the uterus should not be touched again, and the patient be given large doses of alcohol and strychnin if necessary. If the infection be due to other organisms, repeated douchings, and even curetment may be necessary. (8.) If the infection extends toward the peritoneal cavity, and in cases gravely septicemic, Pryor's method of isolating the uterus by packing the pelvis with iodoform gauze may be of service. (9.) The experience of one of the members of the committee seems to show that it has no deleterious effect upon the patient, and therefore, it may be tried if desired. But we find nothing in the literature, clinical or experimental, or in our own experience, to indicate that its employment may markedly improve the general results in the treatment of the condition. *Phila. M. J.*, 1899, iii, 1201.

Dr. Rud Weil (Berlin) recommends a little manœuvre by means of which subcutaneous injections may be made perfectly painless, which is of especial importance in children. While the needle is as a rule, stuck or bored into the skin, the author attempts to project the point rapidly through the cutis. He seizes a large fold of the skin and firmly compresses it between the index finger and and the thumb of the left hand. He then takes the charged syringe like a pen at the lower end of the glass barrel and rapidly propels the point of the needle by a sudden movement of the wrist (the arm remaining perfectly quiescent) through the thick skin. In this manner the prick of the needle is not felt, as a rule. This procedure can, of course, only be carried out on parts of

the body where large folds of skin can be raised.—*Allgem. med. Central Zeitung*, 1895, No. 91. *Pediatrics*, 1899, viii, 263.

A Special Syndrome Observed at the Onset of Chronic Pulmonary Tuberculosis.

M. Fernet, (*Journal des praticiens*, August 5), described at a recent meeting of the Société medicale des hôpitaux a combination of signs generally found in the initial stage of pulmonary tuberculosis which appears to be of great diagnostic value. In addition to the changes in the respiratory murmur, and the dulness and resistance on percussion found at the apex of the lung, which signs are only suggestive when accompanied by other signs and symptoms. M. Fernet finds very generally the presence of three others: 1. Tracheo-bronchial adenopathy, which is evidenced by dulness and resistance on percussion in the interscapular region corresponding to the diseased apex, combined with hollow, quasi-cavernous breath sounds, the expiratory sound being specially marked. 2. Axillary adenopathy on the affected side. 3. A focus of pulmonary engorgement at the base of the affected lung characterized by deadened note on percussion and often by subcrepitant râles. These phenomena collectively constitute links of a chain of symptoms arising from apical tuberculosis. The value of this "syndrome" in establishing the more than ever necessary early diagnosis of phthisis, if fully substantiated, will prove of inestimable value in the prevention and cure of tuberculosis of the lungs.—*N. Y. Med. Journal*, 1899, lxx, 347.

Partial Retention of Urine.

Warden (*Edin. Med. Jour.*, July, 1899) says that the recognition of the condition of a bladder incompletely emptied by the urinary act is all important, although by no means easy. More than seventy-five per cent of all cases of retention are due to prostatic enlargement. Complete retention is the late phase of the condition to these patients, while incomplete retention is very gradually established and often not recognized for years. The early symptoms therefore should be carefully watched for. These are nocturnal polyuria and persistent digestive troubles. Everything which favors local congestion, such as prolonged lying in bed, too sedentary a life, too rich a diet, a surface chill, disregard of Nature's call to urinate, sexual indulgence, tends to bring on an attack of retention. The bladder should be evacuated slowly and if there be any pain during the process, it will be well not to draw the urine completely off but to inject small quantities of warm boracic solution until it comes out as clear as when it was injected. In this manner the urine may be entirely withdrawn without emptying the bladder. If it is difficult to pass a catheter every two, four, six, eight, or twelve hours, as may be needed, it should be tied in, for artificial evacuation may be required for days. The golden rule is to empty the bladder often and aseptically for a considerable length of time. If the early period of prostatic enlargement be tided over successfully, one may be spared the greater anxiety of later complications. As the stagnation becomes more chronic, the complications and alterations in the general health rather than in the local condition make themselves felt. The bladder may consequently escape examination for months, although in all obstinate gastric derangements it is well to suspect and search for some intoxicating agent. When stagnation becomes so extreme as to be accompanied by obstinate distention of the bladder, it forms the most serious, most intractable and yet the most overlooked of all varieties of partial retention of urine. The distention extends throughout the whole urinary tract from the bladder to the kidneys and, although in the beginning there may be no infection, the fundamental disorders will soon become organic. The patient's tongue is red and dry so that swallowing is intensely distasteful. There may be vomiting and diarrhea or constipation of an obstinate form. The pain, loss of flesh and appetite, together with the cachectic appearance and age of the pa-

tient, often suggest to the physician the diagnosis of cancer of the stomach. Inquiry will show that these patients are passing large quantities of urine, generally about one hundred ounces in the twenty-four hours. The urine is usually pale and clear. It cannot be too dogmatically stated that when these three symptoms—polyuria, frequency of micturition, and grave digestive troubles—are present the cause is almost sure to be a bladder which the patient cannot completely empty. Evacuation of the bladder should be begun slowly and very cautiously and may be increased to three or four times in the twenty-four hours if all goes well. The catheterization should be of such frequency that the patient is conscious of no strong desire to micturate, and upon each occasion a small quantity of solution should be left in the bladder. If infection is present, the bladd r should be washed out with boracic solution or silver nitrate, 1-1000. Along with local treatment the diet should be a generous one. Much milk, beef-juice, custards, eggs, etc., and bitter vegetable tonics and saline laxatives should be administered. Healthy out-of-door exercise in moderation is also recommended. If these principles of treatment are intelligently followed, excision of the prostate and castration can be reserved for intractable cases.—*Medical News, N. Y.*, 1899, lxxv, 234.

Treatment of Diarrheal Diseases in Children.

Upsher ("Keating's Cyclopedia," Vol. V.) advises in acute milk infection, the entire withdrawal of milk from the diet and thorough lavage of the bowel with warm water, to which borax is added if there is much mucus present. When the patient is in a state of toxemia, large quantities of a saturated solution of boric acid are to be used once or twice a day for washing out the bowel. When an astringent is indicated, the best agent to employ is a one or two-per cent-solution of tannic acid, and from ¼ to ½ a grain of calomel may be given every two hours for three or four doses. When stimulants are required, either brandy or whisky may be given according to the indications. Nervous symptoms are to be met by morphin hypodermatically in doses of 1-100 of a grain for a child of one year, to be repeated cautiously if necessary, and an ice-cap applied to the head. No food is to be allowed other than small quantities of Valentine's beef-juice in ice-water. In some cases, if food be entirely withdrawn for some hours, and small, frequently administered quantities of some feebly alkaline, sparkling water be given, the results are excellent. The return to a milk diet must be slow and cautious. In subacute milk infection, the child should have cracked ice to relieve its thirst and be given plenty of fresh air. Castor oil is to be given if there is evidence of intestinal irritation. Broths or albumin water may be substituted for milk, or all food be withdrawn. Calomel in doses of ¼ to ½ a grain, combined with precipitated chalk should be administered when the stools are sour, and continued until the consistence of the stools is better. Then astringents—kino, catechu, or logwood—are to be given in combination with chalk-mixture. Free lavage of the bowel with a weak salt solution should be employed every day. If much soreness or tenderness of the abdomen is present, hot spice fomentations are to be applied, or enemata of thin starch water and laudanum are to be administered. If stimulants become necessary, iced mint julep is the best form for use. If the disease remains obstinate, the child should be removed to the air of the mountains, if possible.—*Med. News*, 1899, lxxiv, 792.

The Eye in Melancholia.

Dr. A. Athanassio (*Archives de Neurologie*, May, 1899) speaks of a sign in the eye of melancholics which has not been noted to any great extent. He finds that whereas the light reflex is present, the reflex to accommodation is lost—thus the reverse of the Argyll-Robertson pupil. He explains this by

assuming in melancholia a state of aboulia in which the patient will not really make the effort to fix the eye on a definite point.—*Med. Rec., N. Y.*, 1899, lvi, 304.

The Medical and Surgical Aspect of Appendicitis.

Floyd W. McRae in his oration on surgery, delivered at Columbus (Jour. A. M. A.) gives statistics of 2,903 cases of appendicitis published during 1898 that will bear a little study. Eight hundred and seventy-four cases were operated on during the acute attack as soon as the diagnosis was made, with 170 deaths—a mortality of 19.45 per cent; 896 were purely medically treated without surgical intervention, with 106 deaths—a mortality of 11.83 per cent.—showing a gain of a purely medical over a purely surgical treatment of 7.62 per cent. Of 457 cases operated on during the interval there was only one death, a percentage of mortality of only .022, which is practically nothing. It will be readily seen that if these statistics hold true that to treat appendicitis as a medical trouble, operating only when the swelling, pain, rigidity and pulse increases, the percentage of 11.83 mortality could be markedly decreased. *Cleveland Medical Gazette*, 1899, xiv, 483.

The "Bemis Rules" for the Diagnosis of Yellow Fever.

The Louisiana State board of health has lately issued a circular embodying the rules arranged by the late Professor Samuel Bemiss. The circular is substantially as follows:

The following groups of symptoms shall be considered to indicate yellow fever:

Group 1.—A person after a sudden attack has a fever of one paroxysm, attended with marked congestion or blood stasis of the capillaries of the surface, conjunctivæ, and gums, with a history of probable exposure to infection, and no history of a previous attack of yellow fever.

Group 2.—A person after a sudden attack has a fever of one paroxysm, followed by unusual prostration, albuminous urine, yellowness of the conjunctivæ or skin, and having no positively authenticated history of previous attack of yellow fever.

Group 3.—A person has a fever of one paroxysm, albuminous urine, black vomit, suppression of urine, and a general hæmorrhagic tendency under circumstances where exposure to infection is a possibility.

Suspicious Cases of Yellow Fever.—The following symptoms associated with fever of one paroxysm in a patient who has been apparently exposed to infection, and has never had yellow fever, shall be held to justify in either of the six following cases a suspicion of this disease, viz.: 1. Suddenness of attack, either with violent pain in the head and back, injected eyes and face, or marked congestion of the superficial capillaries. 2. Want of that correlation between pulse and temperature usual to other forms of fever. 3. Albuminous urine. 4 Black vomit. 5. General hæmorrhagic tendency. 6. Yellowness of the skin.

The following cases shall also be suspicous: 7. Any case respecting which reputable and experienced physicians disagree as to whether the disease is or is not yellow fever. 8. Any case respecting which efforts are made to conceal its existence, full history, and true nature.

In the event of death in a suspicious case a post-mortem examination should be made, when practicable. Both before and after death yellow fever is especially and pre-eminently characterized by the fact that it is par excellence a hæmorrhagic fever, marked by capillary congestion and its sequelæ; hence post-mortem evidence of a general hæmorrhagic tendency in internal organs, especially in the digestive, in preference to the urinary tract, shall be held to confirm the suspicion. *N. Y. Med. J.* 1899, lxix, 763.

OF THE DISTRICT OF COLUMBIA.

Continued from September number.

Dr. J. Ford Thompson said he used the Rœntgen Rays whenever it was in his power, and he believed it to be invaluable to the practitioner and patient. He had seen several cases which illustrated its value. As regards fractures, and foreign bodies, its value is recognized. Unfortunately, however, it does not shed much light upon pathological conditions—it shows an enlargement but gives us no information as to its exact nature. Dr. Vaughan must have made his diagnosis of sarcoma of bone in the skiagraph exhibited, otherwise than by the use of Rœntgen Rays alone – as they do not differentiate between the varieties of growths. It is unfortunate that the rays are unreliable in this respect. The largest field for their use is in fractures, and he uses them now in all but the very simplest, and, as even these may prove serious, we should consider the advisability of using the rays in every case. Fractures near the joints cannot now be properly treated without this apparatus. Formerly, it was deemed sufficient to attribute bad results to the nearness of the fracture to a joint. But the responsibility of the practitioner has quadrupled since the Rœntgen Rays came into use, and such an explanation is not now accepted, and hence, they should be almost universally used in surgery. He recalled a case of supracondyloid fracture in a boy, which came under his notice. He had a good assistant, and set the fracture most carefully under an anaesthetic. The position of the ends seemed perfect, but a Rœntgen photograph which he had made, showed that the lower fragment was still displaced. With the same assistant, and under chloroform, he manipulated the limb, and set it in plaster of paris in a different position—the arm straight out—and a skiagraph taken ten days later showed a perfect adaptation of the fragments. The result was perfect. He recalled another case which was not so fortunate, and he would relate it, as he believed that it is well to report our unfavorable cases, as well as those which are successful. Before this, he had hardly known what it was to have a bad result in these cases. The fracture was almost identical with the one above-mentioned, but it was compound. He did not persist in using force to set the bones, but treated the wound first, and set the fracture later—which is good surgical practice. Afterward, a skiagraph showed a displacement of the short fragment. He set it again, under an anaesthetic, and supposed that he had it in good position. A skiagraph, however, showed some displacement. At the end of ten days the father became frightened, and without his knowledge, took the boy on to New York, where he was operated upon by Dr. Bull. These are interesting cases. Lately, he has had another. A boy fell from a tree, knocked his teeth out, fractured his jaw, and his left forearm at about its middle. It seemed a plain case, and he set it without difficulty. At the end of five or six weeks, a little flexion of the hand toward the radial side, as in Colles' fracture, was noted. The lines, and motion, however, were perfect. He kept the case under observation, and later examined the case with great care, and found perfect union, but some trouble with the wrist-joint, he could not make out exactly what. A skiagraph showed that there had been an injury to the lower end of the radius ; there had also been, he thinks, an injury to the epiphysis. The fracture could, with difficulty, be detected in the photograph ; but the thickening of the lower end of the radius limited extension of the wrist. He was sure that no surgeon could have detected the exact trouble with the epiphysis, or have done better with the fracture. In this case, nothing further could be done. An arthrotomy would have subjected the patient to needless risk.

He had found that the thick joints—like the hip, and, to a less extent, the shoulder, gave less satisfactory skiagraphs than others. He sent one patient for a skiagraph several times, but had not yet obtained a satisfactory picture.

He would urge that a skiagraph be taken at once, and that we do not wait until it is too late. It is a matter of regret to him that we have not in this city an X-ray apparatus for use in those patients who cannot pay the fee at present required. It is just as important that their cases should be properly understood and treated, as any. He had found the apparatus at the Children's Hospital useful, but latety it has been out of order, and it is a difficult matter to get it repaired. If one could be set up in one of the hospitals for the use of practitioners generally, it would be a good thing. The surgeons would do this themselves if it were not so expensive, and so difficult to keep them in repair.

Dr. Snyder said that he recollected a case which illustrated one difficulty in the use of skiagraphs. This patient, a man, fell upon the right side of his head, two years ago. He was unconscious, and it was thought that his skull was fractured. Some time after, he began to have epileptic convulsions at night, and had not gone longer than two weeks without one. A skiagram was taken, showing a depression at the site of scar, and the depression of the outer table which could be felt. He operated upon the patient today, and could find no depression of the bone whatever. Another case was one of bullet wound of the femur in which he had a skiagraph taken. It did not, however, give any idea as to the depth of the ball, or upon which side of the bone it lay. Two photographs were taken both of which were very indistinct.

Meeting of April 19th, 1899.

Dr. Sowers, Vice-President, in the Chair.

Dr. J. Ford Thompson reported a case of abdominal hysterectomy, with specimen. Not received in time for publication.

Dr. J. F. Moran presented a specimen.

Gummata of the Brain.—Was called to see Mr. C., January 12, 1899; he was suffering with a boring pain over left temporal region, inability to sleep, loss of appetite, etc. Patient dull, apathetic, coated tongue, quite deaf, temperature and pulse normal. Urinalysis negative. Ordered a brisk mercurial cathartic and followed with acetanilide and sodium bicarb. Further inquiry revealed a specific history of about fifteen months duration. Put on saturated solution of potassium iodide in increasing doses, but without any amelioration of the symptoms. The mental hebetude and deafness gradually increased, and at the same time there was observed a beginning difficulty of articulation and tottering gait on attempting to walk. The headache grew in intensity and patient gradually lapsed into a state of coma on the 21st. Up to this time pulse was about 80, and there had been no rise in temperature. On the 22nd Dr. L. Mackall, Sr., saw the patient in consultation and we ordered wet cups to the back of the neck with a view of relieving the cerebral condition. Several hours afterwards temperature arose to 104°, and it was noticed that whenever patient was placed upon his back sterterous breathing ensued with a clonic convulsion of the right arm. The coma gradually deepened and the patient died on the 24th.

Necropsy by Dr. Lamb showed gummatas of pia mater of left side of cerebrum and brain stem; the right side was affected to a less extent. About a dozen gummatas in all were noticed; there may have been others, smaller, which were lost in stripping off the pia mater. On the left side there is one at base of inferior and ascending frontal gyri extending into Sylvian fissure;

one at base of supra marginal gyrus adjoining Sylvian fissure; one at at anterior perforated space; one in collateral fissure; one on crus cerebri; one on side of pons; on right side was one at base of supramarginal gyrus and one adjoined corpus albicans. There was a small quantity of lymph exudated. Those gummatas included in the Rolandic area would be expected to cause some disturbance of function of muscles around the mouth and neck, perhaps motor aphasia; others may have interfered with olfaction and vision; one at least may have caused some interference with taste and smell, possibly also hearing. The interference however would not have been from direct involvement of brain substance in the lesions but in disturbing the blood supply to the parts. The history mentions deafness, difficulty of articulation and tottering gait; the first two may possibly be explained by the lesions; the third hardly so. The stertorous breathing and clonic convulsion of right arm do not appear to me to be explained, except possibly by the lymph exudated. The examination was limited to the head.

Dr. Dufour said in referring to the specimens of gumma of the brain, that he had presented in 1896, the brain of a patient who was similarly affected. The patient, female, colored, 56 years of age. No specific history. She suffered from paralysis of the third, fourth, sixth, and first division of the fifth nerves. Word deafness, and atrophy of the optic nerve. The post-mortem examination revealed the following condition: Gumma of dura in the anterior part of the left middle fossa: this involved by extension the left anterior temporo-sphenoidal lobe. The growth surrounded the internal carotid artery, exerting pressure on the cavernous sinus, and involved the left optic nerve at the commissural origin. Considerable oedema of the left anterior sphenoidal lobe. A smaller gumma involved that part of the brain mass which constitutes the left olfactory convolution. And a third, and smaller, lay in the angle of the right optic commissure. The bone around the first growth had lost its compact covering, and had become porous. The dura was very adherent to the bone. In this case, all the ocular and other manifestations of the disease during life, were explained up by the post-mortem.

Dr. C. R. Dufour read a paper,

Influenza Otitis.

(Not received for publication.)

Dr. J. Preston Miller read a paper,

Preparing for the Knife in European Hospitals.

(Mss. not received.)

Joint Meeting of the Medical, and Anthropological Societies of the District of Columbia, April 26, 1899.

Dr. Busey, President, in the Chair.

On motion of Dr. Smith, the order of business for the evening was suspended.

THE EFFECTS OF MODERN FIRE-ARMS IN WAR.

George M. Kober, M. D.

Before considering the effects of modern fire-arms it may be of interest to sketch briefly the history of small arms and projectiles.

Small arms are portable fire-arms known as muskets, rifles, carbines, and pistols. The first hand guns or hand cannons invented about the middle of the 14th century consisted of a tube of iron or copper, with a touch-hold, loaded with powder and leaden bullets; they rested upon a stand or support and were fired off by a lighted taper. These guns came into practical use in 1446, and weighed from 25 to 75 pounds and required two men to serve them. The difficulty

of aiming arising from their great weight was in a measure overcome by making them shorter and supporting the piece on a tripod, in which shape the gun was called an "arquebus." The next improvement in the arquebus was to make it lighter and enclose it in a piece of wood called the stock, the butt of which was pressed against the left shoulder while the right hand applied the taper to the vent. It was still very heavy, and in aiming the muzzle had to be rested in the crotch of a fork placed in the ground. To give steadiness to the aim while applying the match to the priming, a species of lock was next devised, which consisted of a lever holding at its extremity a lighted taper. In firing, the lever was pressed down with the finger until the lighted end of the taper touched the priming. This apparatus, known as the serpentine continued in use until it was replaced by the wheel or flint lock which was invented in Nuremberg in 1517. The musket was first introduced by the Spaniards under Charles V in 1540, it was a match-lock fire arm such as we still see in use among some Eastern people, with a caliber so large, that eight round bullets weighed a pound, the piece was consequently so heavy that it was necessary to fire it from a forked rest inserted in the ground. The size of the bore was finally reduced to 18 bullets to the pound and from this arm was derived the late smooth-bored rifle.

The musket with its match-lock was used until about 1760, when the flint-lock came into more general use. About this time the bullets varied in weight 480 to 574 grains and in diameter from .69 to .74 inch; they were cast in moulds, and although the charge of gun powder was 6 drachms owing to the presence of air cells, the bullets were very irregular in their flight, their rate of velocity comparatively low and their range quite limited. In 1839 the flint-locks were replaced by the percussion locks, the percussion or fulminating powder having been invented, and patented by the Rev. Mr. Forsyth of England as early as 1807.

It is generally stated, that the rifle was invented by Zoller of Vienna and made its first appearance at a target practice at Leipzig in 1498. The first rifle-grooves were made parallel to the axis of the bore, but it was accidentally discovered, that spiral grooves gave greater accuracy to the flight of the projectiles. About the middle of the 17th century, the rifle began to be used to a limited extent as a military weapon. In 1729 it was found, that good results could be obtained by using oblong projectiles of an elliptical form, but until the introduction of the Minie Rifle with its elongated projectile, during the Crimean War of 1854–1856, the smooth-bored musket was the arm in most common use.

The great difficulty of loading the rifle which was ordinarily accomplished by the blows of a mallet on a stout iron ramrod has been overcome by the breech-loading mechanism and rifles have now superseded the smooth bored arms.

The Prussian Needle gun invented by Von Dreyse in 1836, was the first breech-loading fire-arm ever employed in any army. It was used in the Schleswig Campaign of 1848 and again by the Prussians in the Danish War of 1864, in the war with Austria in 1866, and in the Franco-Prussian war of 1870-1871. During the Civil War a great variety of small arms and missiles were used, such as the smooth bored musket and rifled

muskets of the Enfield and other foreign patterns, most of these, however, were soon superseded by arms of domestic manufacture of great power and precision, among which breach-loading and magazine guns occupied prominent positions. The missiles resolved themselves into spheric balls for the smooth-bored muskets and those of an elongated form adapted to rifled arms.

From July 1866, to the present moment, the hammer and anvil have been busy throughout the civilized world in making the weapons of war yet more deadly. Improvements in fire-arms are being multiplied almost daily and there seems to be no limit to the inventive genius of man in the production of destructive agents.

Scarcely two countries have adopted the same plan; each nation has elaborated a system from among its own inventors, but all have arrived at a reduction of caliber of the bullet, the metallic jacket and nearly all have substituted smokeless for black powder. In consequence most of the civilized nations are armed with breech-loading and magazine rifles firing hard-mantled projectiles of from 0.32 to 0.26 inch in diameter. The lead core is hardened by 2 to 5 per cent of tin or antimony and the casing or mantle is composed of steel sheets plated with cupro-nickel. This casing prevents "leading" of the barrel a frequent cause of unserviceable rifles and apart from vastly increasing the efficiency of the arm, also modifies the character of the resulting injury. The reduced caliber and weight, enables the soldier to carry a greater amount of ammunition and the cartridge can be adapted alike to the rifle, carbine, machine gun and pistol. Stevenson estimates, that the substitution of breech-loading for muzzle-loading rifles has increased the capability of fire ten-fold, which is still further augmented by the magazine attachment.

The great superiority of the new rifle bullet lies, however, in its high sectional density, high velocity and great stability, all of which combine to produce long range, powerful striking energy, penetration and increased accuracy at short middle ranges. In consequence, the new small caliber rifle is capable of causing a mortal wound at a distance of 4,000 yards, which is nearly double the effective range of any infantry arm heretofore used; indeed it has been shown experimentally that at a distance of 100 yards, the new bullet will perforate five human bodies in succession placed one yard apart. The same strides of improvement have been made in artillery guns and projectiles, so that all the heavy ammunition, except canister shot are of the cylindro-conroidal shape with a tendency towards a steady reduction in caliber, which together with high power explosives has resulted in vastly increased range, rapidity of fire and distructive effect.

As a consequence the zone of artillery fire will be widely extended. Shells may inflict great damage at a distance of 6,000 to 10,000 yards, and Dr. Forwood believes, there will be greater danger in approaching the battle field with ambulances and difficulty in finding safe and convenient shelter for the collection of wounded.

The question naturally arises, what effects will these improvements in weapons have upon modern warfare. Are the weapons of war actually more deadly? What will be the percentage of wounded and the ratio of killed to wounded? Billroth expressed the conviction a few years ago, that in every form of fighting,

the increased penetrative power and greater range of modern projectiles and the use of smokeless powders, will cause not only an increase in the number of wounded, but also in the number of severely wounded men. But fortunately for civilization this prediction has not yet been verified, and while there may be an increase in the number of wounded in future wars the assumption at present appears justified, that modern wars are not as sanguinary and destructive to human life as formerly, because as the efficiency of weapons has increased, the distance between the contending lines has been increased, and at long range there are few effective shots and always a milder grade of injuries. The "open order" formation and the use of hasty entrenchments are perhaps the chief factors in the prevention of casualties.

Prof. Fischer in his masterly work on Military Surgery has considered the effects of modern fire-arms with special reference to the duration of wars, the number of troops engaged, the proportion of killed and wounded; the ratio of hits to shots fired, etc., and concludes that the balance is in every respect in favor of modern warfare.

1. It is a notorious fact that modern wars are of shorter duration, because the battles follow each other at close intervals; thus while during the thirty years war important battles were fought once in about 3 years, during the Franco-Prussian war important engagements took place every second day.

2. The number of troops engaged in modern battles is not greater than in ancient times. When we remember that 300,000 Persians fought at Plataea against 110.000 Greeks, and over a million of Persians fought at Arbela, while at the battle of Leipzig over 486,000 men were engaged in the bloody conflict, there is nothing extraordinary in 300,000 combatants at Solferino; 186,000 at Gettysburg or 500,000 at Metz.

3. Modern wars are less sanguinary than formerly. The Romans at Cannae killed or wounded 92 per cent. of their opponents, and at Tannenberg 42 per cent. At Kunersdorf in 1739, the casualties amounted to 38 per cent. and at Maida in 1806, the French lost 53 per cent. of their whole army.

The fighting in those days practically amounted to a hand to hand conflict with the free use of the club, sword, bayonet or butt of the gun. During the Crimean war the loss in the British army was only 15.1 per cent. At Gettysburg the loss in the 117,000 Union troops was 19.7 per cent. but among the 68,000 Confederates it was 46.2 per cent. The losses at Konigsgratz were 4.1 per cent. at Gravelotte 7.3 per cent., at Sedan 4.7. In the late Spanish-American war the casualties before Santiago from July 1st to 12th amounted to about 11.2 per cent. This includes the action of San Juan, El Caney and Aquadores, July 1–3d, and actions around Santiago July 10–12th. Present for duty June 30th, 858 officers and 17,358 enlisted men. Killed 22 officers and 222 enlisted men. Wounded 93 officers, 1,288 enlisted men.

4. The number of men killed per hour is less in modern wars; 5,800 men were killed per hour at Borodino; 4,150 at Kunersdorf; 3,908 at Konigsgratz; 3,000 at Leipzig; 2,771 at Solferino and 2,702 at Metz.

5. The proportion of hits to the number of shots fired has not materially increased. It has been calculated, that at the battle of Leipzig the amount of lead expended for each man killed was equal to his weight. At the battle of Mur-

freesborough it required according to a report from General Rosecrans 27 rifle and 155 musket balls to hit one man, and at Mars-la-Tour the Germans made but one hit in 462 shots fired. Wolozkoi quoted by Dr. Forwood, estimates the percentage of hits with the new rifle at 1 in 400 shots and since our soldiers carry 100 rounds of ammunition it will require all the ammunition of four men to wound one of the enemy.

6. The general ratio of killed to wounded is not greater in modern wars. According to Prof. Fischer, whose statistics are believed to be the most reliable, the proportion of killed to wounded in different wars has been as follows:

At the battle of Kunersdorf of 1759 as	1 to 1.9
" " " " Leipzig	1 to 2
English in the Crimea	1 to 4.4
French " " "	1 to 4.8
Prussians in Schleswig-Holstein	1 to 1.8
Prussians in Konigsgratz	1 to 3.6
Austrians " "	1 to 3.0
Germans in 1870-1871	1 to 5.4
Russians in 1877-1878	1 to 2
During our Civil War the percentage of killed was 17.97 to 82.03 wounded or	1 to 4
During the recent Spanish American war the percentage of killed was 13.4 to 86.86, wounded or	1 to 5.70

Statistics of former wars have shown, that about 17 per cent. of the total strength present in an engagement will be placed "hors de combat," and it has been assumed, that this percentage in future wars may be increased to 20 per cent. Upon this basis, Surgeon Stevenson of Netley estimates that 5 per cent. would be killed outright and 15 per cent. wounded. A division of an Army amounting in round numbers to 10,000 men would therefore have 1,500 men wounded, of whom 500 or one third could be severely wounded and would require to be carried off the field and 1,000 slightly wounded, most of whom might be able to walk to the collecting and dressing stations."

As a matter of fact this calculation has not been verified by our experience around Santiago de Cuba, were our casualties amounted to only 11.2 per cent., and the ratio of killed to wounded was 1 in about 5.

The great majority of wounds are inflicted by small arm ammunition; thus of 141,961 cases tabulated during our Civil War 127,929 or 90.1 per cent were caused by small missles, and during the Franco-German war 94 per cent. were caused by small arms and 5 per cent. by artillery missles. During siege operations the percentage of wounds by large projectiles has reached, however, as high as 30 and even 80 per cent. Sabre and bayonet wounds furnish about 1 to 2 per cent. of the casualties.

Statistics in regard to the regional distribution and severity of wounds, indicate, that in every hundred of the wounded, we may expect, according to Dr. Forwood's estimate, from 2 to 3 compound fractures of the thigh; 3 to 4 of the leg; 3 to 4 of the arm; 2 to 3 of the forearm, and one or more of each of the knee or elbow joint. There will also be 1 to 2 severe injuries to the head; 1 or 2 perforating wounds of the abdomen and 3 to 4 of the chest. The remainder or about 80 per cent. of the wounded will be simple flesh wounds.

The next question arises: "What will be the influence of the small calibre bullet upon the character of the wound?" Above all we should remember, that the principal factors which determine the amount of damage inflicted by the modern rifle are: 1st, the physical qualities of the tissues involved, especially their firmness, consistence and the amount of moisture contained therein, and 2nd, the velocity of the bullet at the moment of impact. Velocity bears a definite and inverse relation to range, and its effects

are shown by gradual changes in the character of wounds as the firing distance is increased or diminished. These changes differ of course in degree in different structures and are never well defined for certain ranges, but for the purpose of description, we speak of the effects of a missile fired at short range, *i.e.*, within 500 yards; middle range from 500 to 1,200 yards and long range from 1,200 to 2,000 yards and beyond.

From experiments on the cadaver, which, however, are not conclusive as to the effects upon living tissue, and the limited experience in actual warfare, we may expect clean perforations in all wounds of the soft parts and thin portions of the bone, at all ranges out to 2,200 yards. The wounds of entrance and exist of these punched out holes are generally smooth and sharp and vary but little from the diameter of the bullet which passes in a direct line between the two openings. When the energy of the bullet simply acts in the line of its course the tissues are perforated, but when this energy is transmitted latterly there is more or less laceration of the surrounding parts beyond the wound canal, amounting sometimes to explosive effects.

The occurrence of these apparently explosive wounds has been attributed to a variety of causes, such as soft leaden and deformed bullets, hydraulic pressure developed by the passage of the bullet through liquids or semi-liquid tissues and other causes, but the most reasonable explanation is that they are caused not only by the immediate and crushing action of the bullet, but also by the transmission of a part of its energy to the solid and liquid particles which it displaces. So for instance in the case of resisting bone, the energy is transmitted through broken fragments which acting as secondary missiles are thrown with more or less violence into surrounding parts. Even in the soft parts, in liquids or in tissues saturated with them, the enormous force or energy of the projectile is transmitted from particle to particle against resisting boundaries as the skull, walls of the hollow viscera and the capsules of large glandular organs. Hence we may expect to see this explosive effect especially in wounds of the head, the hollow viscera and abdominal organs, and also in the shafts of long bones, because of their liquid or semi-liquid contents.

And since the explosive effects are greatly influenced by the velocity of the bullet, the most frightful effects will be seen from shots fired at close range as in the case of suicides; but in shot injuries of the skull, large glandular organs and the shafts of long bones, they will appear though in gradually diminishing amount out to 1,200 yards. At a distance of 1,600 yards, in shot injuries of the head, the first clean perforations without splintering appear, and beyond 2,000 yards lodgment of the bullet may occur.

Having thus given a brief outline of the effects of the modern small caliber bullet it must be apparent, that the velocity of the bullet, *i. e.*, the distance from which the shot is fired, a matter not easily determined, and the character of tissues traversed, determine to a great extent the gravity of the wound. As a result of the diminished caliber and superior penetrating power of the hand mantled bullet, we will have however, smaller shot-tracks, the wounds will be clean and even resemble more nearly incised than contused wounds; there will be fewer complications from lodgment of the bullet and the introduction of frag-

ments of clothing and septic matter and best of all a more favorable character of the wounds for the application of primary antiseptic dressings and rapid healing. In the language of Bruns: "The new arm of small caliber is not only the best, but it is also the most humane, in that it lessons the horrors of war as far as possible."

In conclusion I wish to express my special obligations to the writings of and teachings of my friend Deputy Surgeon General Wm. H. Forwood, U. S. Army for much of the information contained in this paper.

DISCUSSION.

DR. MUNSON said: To the able paper of Dr. Kober, but little can be added. It is worthy of note, however, in considering the relative proportion of casualties to men engaged, that while at all but short ranges the Krag-Jorgensen shoots high and to the right on account of the drift of the bullet, this fault during actual hostilities is more than neutralized by its much flatter trajectory, greatly increased danger zone and consequent simplification of the problem of range with its dangers of under or over shooting. As is well known, our troops at Santiago suffered largely from an unaimed fire to which they were unable to reply, the Spaniards merely elevating their sights for previously determined distances and sweeping the undergrowth through which our forces were advancing. The peculiar advantages possessed by the small calibre, high power rifle for this kind of work are obvious.

From what I saw at Santiago, together with a considerable experience with the Krag-Jorgensen rifle, and the service cartridge in hunting large game, it seems to me to be chiefly a question as to whether a vital point is or is not struck, less a question of the kind of tissue injured, with range figuring as a very small and unimportant factor.

As it is my experience that the full mantled service bullet when undeformed, has but slight disorganizing powers at any range whatever, the subsequent mortality would seem to become almost entirely a matter of early antisepsis and the prevention of wound infection. It is undoubtedly true that under certain comparatively unusual circumstances, not as yet understood, we may occasionally note markedly destructive results; but that a so called "explosive action" normally or even frequently characterizes wounds made by the small military bullet, I am not prepared to admit. In this connection we must take into consideration the fact that big game hunters (and nearly all large game is shot at distances under 150 yards) have long demonstrated the fact that the military bullet has little value for sporting purposes and that it merely drills a small hole through the animal with the production of but slight shock or "stopping power," slight loss of blood or laceration of tissue. To meet their needs a special soft point bullet, mushrooming on impact and with great powers of disorganization, has been devised—and the use of a similar deforming bullet has been recognized by the British Government as necessary in its wars in India and the Soudan. Were the destructive powers of the military bullet even a fraction as great as some would persuade us, the employment of any such special bullet for military or sporting purposes would not have been found to be necessary.

During the Spanish-American war, as stated by Dr. Kober, the total number of United States soldiers killed in battle amounted to about 11.2 per cent of the total casualties. The total wounded, including the few shell wounds received as well as those from gunshot, amounted to 1581. For the entire period covered by the war the records of the Surgeon General's Office show that only 51 major operations, including all the amputations, excisions, ligations, laparotomies and trephinings, were required; either in Cuba or later in the hospitals of this country. Even including the few shell wounds, which almost invariably were of a character

requiring amputation, it is seen that no more than 3.22 per cent of such wounded as reached a field hospital ever required the serious and mutilating operations formerly considered as essential to military surgery. From the fact that although one man in every six of those struck by projectiles was killed on the field of battle, while 96.78 per cent of the survivors required only trifling operative treatment, if any, it would seem as if the small calibre wound is either immediately fatal or else, with the maintenance of such excellent antisepsis as was the rule in the Spanish-American war, the rapid recovery of the patient without operation is almost assured.

I have always been something of a dissenter to the "explosive" theory, and the suspicions aroused in the hunting of large game in the west have been changed to conviction by results personally observed at Santiago and by later examination of the records of the Surgeon General's Office. The great disorganizing effects of the small military bullet, as found in experiments, both with reduced loads and at actual distances, upon cadavers, fresh and dry bones, tin cans filled with wet and dry sawdust and other inelastic substances, were not seen by me to any appreciable extent in wounds in living tissue. The hydrodynamic theory may be quite applicable to tin cans filled with wet material but cannot apply to elastic muscular tissue with its still more elastic integument.

Personally, I cannot believe that laterally transmitted energy occurs with the undeformed bullet to any appreciable extent, in the production of the so called explosive effects, unless the course of the bullet be suddenly arrested to a greater degree than would seem to be usually possible with the tissues of men and smaller animals. Laterally transmitted energy no more occurs than does the searing of the wound by the heat produced by the impact of the projectile and the friction of its passage.

While perfectly willing to admit that in a very small fraction of instances, extensive destruction of tissue may sometimes be observed, my experience corresponds with that of Dr. Lesser, of the Red Cross, who says in his official report of the wounded at Siboney, "Most of the cases of gunshot wounds gave very little trouble to the Surgeon. The bullet entered at one place and made its exit at another, thus leaving a clean wound. Bullets passed through vital organs of the body, such as the brain, lung or abdomen, without apparently giving the patient any great distress, some of the more serious cases excepted."

It may here be noted that while of four cases of gunshot wound of the abdomen operated on, all died, several such cases set aside to pass away in peace made excellent recoveries.

The following official figures, based on the fight at Las Guasimas, June 24th, would seem to be of interest.

Number of opposing Spanish troops, estimated	2,500.
Actual U. S. Forces engaged in action	964.
Total number of casualties in U. S. Forces	68.
Percentage of casualties to strength	7.05
Killed in action	16.
Percentage of killed to casualties	23.53
Wounds	52.
Percent of wounded to casualties	76.47
Penetrating wounds	8.
Percent of lodged bullets	18.1
Wounds of head	2.
Wounds of neck	3.
Wound of shoulder and neck	1.
Wounds of shoulder	2.
Wound of scapula	1.
Wounds of thorax	2.
Wound of spinal canal	1.
Wound of abdomen and liver	1.
Wound of genitalia	1.
Wounds of upper extremity	16.
Wounds of lower extremity	23.
Total wounds of extremities	39.
Percentage of wounds of extremities	77.19
Fractures	7.
Percentage of fractures to wounds of extremities	17.8
Major operations, (laminectomy and trephining)	2.
Percentage of major operation to wounds	3.8

No amputations, resections or ligations were required and there were no deaths.

As the battle of Las Guasimas was fought at a range of from 500 to 200

yards, when the Spaniards broke and fled, it will be seen that the distance between the combatants was the one theoretically most favorable for the alleged destructive effects of the Mauser bullet. Being at the time on duty on board the hospital ship which received all the wounded from this fight, I personally examined, more or less thoroughly, each wounded soldier. In the wounded so received, a surprising absence of explosive effects were noted, although the list included such wounds as those of the brain, liver and long bones. Later, in the care and dressing of over 500 wounded soldiers, prior to their return to the United States, I rarely saw a case presenting any great destruction of tissues.

I was much impressed with the large number of lodged bullets, 8 out of 52, resulting from the Guasimas fight, which to my mind signifies a possible deterioration of powder, and which perhaps, as much as Spanish marksmanship, may account for the surprisingly small number of casualties later received in the advance on San Juan Hill. In one particularly interesting case, shot at a distance of about 400 yards, the undeformed bullet lay under the skin of the leg, after drilling a hole through the tibia without having fracturing it.

With regard to compound fractures, the figures quoted by Dr. Kober as given by Dr. Forwood, would seem to be too high, as the limited number of amputations reported throughout the war—34—would indicate. I am convinced that the small calibre bullet but rarely crushes, splinters or fractures living bone unless such bullet strikes sideways, the hard jacket strips off or the bullet is deformed by previous contact with some hard substance.

Dr. Kober mentions the tissue destruction following suicide by the Krag-Jorgensen. In this the muzzle of the gun is necessarily held close to the body, or may perphaps be placed in the mouth, and, to my mind it is much more probable that the disorganizing effects here noted are due to the expansion of the partly confined gases generated by the explosion rather than to any particular explosive effect of the bullet itself.

It is well to note, in conclusion, the wonderful rapidity with which the Mauser wounds healed. Frequently repair took place under a scab and in a large number of instances, after examination, it was found unnecessary to even change the original dressings; often the first aid dressing applied at the front. As far as can be learned, not more than 3 per cent of Mauser wounds went on to suppuration; although exact figures on this point are lacking. Certain it is that the late war has had its lessons for the surgeon as well as for the sanitarian.

GUNSHOT WOUNDS; REPORT OF EXPERIENCE WITH GUNSHOT CASES IN THE SPANISH-AMERICAN WAR AND DEDUCTIONS THEREFROM.

By Dr. W. C. Borden, M. D.

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Knowledge of the effect produced in the human body by the missiles used in war is of the greatest importance to the military surgeon.

First, that he may approximate the number in a given force liable to be disabled and so prepare to care for that number; second, that knowing the peculiarities of the wounds he may know how to treat them properly.

In reviewing my experience with gunshot wounds in the late war I have reached the conclusion that two factors stand out pre-eminent in modern military surgery. These factors are 1st: the application of the principles of aseptic and antiseptic surgery, and, 2nd: the effect of the jacketed, small calibre bullet. Of these the principles of asep-

sis and antisepsis are the most important, covering as they do not only wounds made by bullets but all varieties of wounds found in war. These principles have revolutionized surgery.

The modern compound bullet in some instances produces wounds somewhat different and much more humane than those produced by the old bullet with its lower velocity and lesser sectional density.

These wounds are interesting and important to the military surgeon, causing as they do new problems in the details of treatment. They are tissue traumatisms to be treated and dealt with as are tissue traumatisms produced in other ways. While it may be argued that the perforating or penetrating small calibre bullet wound is usually aseptic and therein different from the wound made by the old, larger, lead bullet, it is but the recognition of the asepticity of these wounds and the resulting conclusion of non-interference or surgical procedure only under aseptic conditions which are the important factors. Also, the humane effects so frequently produced must not from their novelty override the equally important fact that the new bullet sometimes produces wounds as destructive as those made by the old lead projectile.

I venture to say that had modern methods of asepsis and antisepsis been in use during our Civil War, the results would have been so different from those actually obtained that it would have been seen that it was the surgical method employed and not the particular bullet which most influenced the result. As it happens, the employment of aseptic methods and the use of the new bullet have practically come together and the bullet has, in part, received a credit which is entirely due to the method. Of course with the old, slow moving, large bullet, the wounds were somewhat larger, therefore, more liable to infection, and the carrying in of clothing more apt to be frequent. But these are really minor circumstances and would influence the results but little. It was the probing with dirty probes and unclean fingers, the unnecessary operative interference under septic conditions and septic dressings, that was responsible for unfavorable results and high mortality.

Believing in the major importance of aseptic and antiseptic methods I shall first discuss their influence and the results obtained by their employment in gunshot wounds other than those made by the compound bullet and afterward the injuries produced by, and the effect of that missile in influencing treatment and determining final results.

General Considerations.—During the war 202 gunshot cases with 230 wounds came under my direct observation or treatment. There were 16 cases with multiple wounds. Some of these were wounded by one, and others by more than one missile. In the total of 202 cases there was one death, a mortality of only a trifle over ½ of one per cent.

Most of the cases were treated at the U. S. A General Hospital at Key West, the wounds having been received from 36 hours to five days before they came under my observation. Cases from both the Army and the Navy were received at the Hospital. Those from the Navy were from the engagements at Cardenas and Cienfugos and from the bombardment of San Juan.

The cases from the Army were men of the 5th. Army Corps wounded in the engagements before Santiago up to and including July 2nd.

Character of the Wounds on Arrival at the Hospital.—The condition of the wounds, in general, was remarkably good. The wounds had all been dressed either with the dressing provided in the first aid packet or with other dressings applied at the field hospitals or on board ship.

Three main facts presented themselves: first, that all perforating and penetrating wounds which had simply been covered with a dressing were practically aseptic; second, that all lacerated wounds treated in the same way—though many were suppurating—were in excellent condition; third, that all wounds of whatever character, which had been subjected to operative or any treatment other that the simple application of dressings, were suppurating.

The excellent condition of the undisturbed cases was so noticeable that, in my opinion, it should be laid down as a fixed rule of military surgery that operative interference in the field should be limited to cases of absolute necessity. By absolute necessity meaning where the life of the patient is at stake or transportation without operation would endanger life.

All other cases should be dressed with dry dressings, the wounded part immobilized and the patients transferred to general hospitals where they can be operated on under the favorable conditions of modern methods.

In this connection the method adopted in the late war of establishing numerous, large general hospitals and equipping them with Roentgen ray apparatuses and appliances for aseptic surgical work and for transporting the wounded to these hospitals as soon as possible after they were wounded, is most commendable. It undoubtedly did much to reduce the mortality of the wounded and furthered favorable results by placing the patients where they could have the advantage of modern surgical methods under conditions favorable to their best employment.

Character of the Injuries Observed.—The wounds were of all regions of the body and were made by:

Small calibre bullets, 198; fragments of shell, 21; shrapnel bullets, 4; revolver bullets, 33, (2 accidental, 1 criminal.) Missiles unknown, 4; total, 230.

Of these 230 wounds, 169 were perforating or penetrating small calibre bullet wounds and could be considered as characteristic injuries produced by that missile. The other 61 wounds had none of the characteristics supposed to be peculiar to that projectile and had to be treated on general surgical principles.

Thus over 26 per cent of all the wounds were of a character which negatived any possibility that their course of healing and result could have been effected in any other way than by the original severity of the injury or by the method of treatment employed. It should be stated that the above percentage of wounds not characteristic of the compound bullet is probably somewhat larger than would ordinarily be seen in land battles, due to the number of shell wounds received from the Navy.

Also, with two exceptions, the 27 lacerated wounds produced by the small calibre bullet were slight. This is due to the fact that the compound bullet is so small and travels at such high velocity that it has to pass very superficially indeed or it will penetrate or perforate. Consequently when it does not penetrate it makes but superficial wounds. Occasionally when penetrating it makes extensive lacerated wounds, probably

from striking the body when turning on its long axis as a result of ricochet.

Shell wounds, shrapnel bullet and revolver bullet wounds are, however, of all degrees of severity and favorable course of healing in severe wounds by these missiles is to be mainly ascribed to aseptic or antiseptic methods employed in treatment.

Shell Wounds.—The 21 shell wounds were all lacerated and infected. Most of them were superficial and healed rapidly under antiseptic dressings.

Three were of marked severity and were extremely interesting both in showing the value of modern surgical methods and the wide difference between shell wounds and aseptic wounds made by the compound bullet.

General Conclusions Regarding Shell Wounds.—Shell wounds differ entirely in character from bullet wounds and the mistake must not be made in supposing that they can be treated in the same manner. They are made by irregular fragments of metal, are lacerated and unlike bullet wounds, are always infected. The fact of infection requires that they be treated on lines of antisepsis rather than asepsis and consequently the same conservatism can not be practised as with aseptic bullet wounds. They in many ways resemble railroad traumatisms and have to be treated on the lines of general surgical principles.

The amount of injury to the soft parts and bone have to be considered in connection with the infection and active rather than passive conservatism has to be practised. By active conservatism meaning the thorough employment of antiseptics, the thorough removal of all bone fragments and careful trimming of the lacerated soft parts. But amputation will frequently be required in these cases, much more frequently certainly than in bullet traumatisms.

The risks of conservatism are much greater in shell wounds involving bones and as they are always infected the surgeon will have to decide in each case whether the benefits which may be obtained by conservative treatment overbalances the danger to the patient from possible osteo myelitis, septicaemia, prolonged suppuration, and convalescence and recovery in bad cases with a limb at best partially functionally defective from deep cicatricial formations.

Shrapnel Bullet Wounds.—As these wounds are made by lead bullets of large calibre and low velocity they would supposedly present conditions relative to infection quite different from those made by the small calibre bullet. This was, however, so far from being the case that of the 7 shrapnel cases, all penetrating, which came under my observation but 3 suppurated and in those cases suppuration was the result of removal of the bullet in the field. In the other four cases the wounds of entrance were so like that of the small calibre bullet and irritative symptoms were so absent that until the Roentgen ray was used the wounds were thought to have been made by the jacketed bullet.

This is a strong argument for modern methods. Had these large lead bullets been probed for under septic conditions instead of being left undisturbed under the impression that they were small calibre bullets a very different result would have been chronicled.

Revolver bullet wounds.—From the distance which now ordinarily separates combatants, wounds of this kind are now rarely received in battle. Though the revolver bullet is a large lead bullet with low velocity, two of the wounds were of

interest from their aseptic similarity to to those made by the jacketed bullet. The third was of interest from its gravity and treatment. In this case there was an informal resection of the ulna in that about 3 inches of its continuity was removed. The wound was large, lacerated and consequently infected, yet as it received immediate treatment it healed by granulation almost without suppuration.

Wounds made by the jacketed, small calibre bullet.—These wounds were made by the Mauser bullet, with two exceptions where the injury was from the Krag-Jorgensen. The character of these wounds were as follows:

Mauser bullet.	Perforating.	Penetrating	Lacerated	Total.
Flesh wounds.....	114	19	27	160
Compound Fractures.....	36	2	0	38
Total.....	150	21	27	198

Appearance of the entrance and exit wounds made by the jacketed bullet; wounds of entrance.—With the exception of one lacerated wound apparently made by a ricochet bullet turning on its long axis, the wounds of entrance were all small in size and presented two main types. Those of one type were about 1.25 centimeters in diameter, circular, slightly depressed, the skin at the edges of the wound whitened and with the appearance of very slight superficial necrosis or infection. These all dried and healed immediately under dressings of iodoform gauze. The entrance wounds of the other type were smaller, not exceeding 0.5 to 0.75 centimeters in diameter and were dark in appearance, with absolutely no sign of even the slightest infection. They were not all regularly circular in form, some being slit-like or irregularly notched at the edges. Wounds of marked oval outline were not observed, the bullet from its small calibre producing nearly circular wounds even when entering the body obliquely. With the exception of the lacerated wound above referred to none of the wounds exhibited evidence of inflammation either at entrance, exit, or in the course of the bullet except those which had been subjected to operative interference at the field hospitals.

Wounds of exit.—A marked peculiarity of these wounds was their small size. They were, as a rule, slightly irregular in outline; a few of them larger than their corresponding entrance wounds, but the majority were of equal size or smaller. In many cases it was not possible to determine from inspection which was the wound of entrance. Where multiple wounds were produced by the same bullet, the second wound of entrance and exit differed in no marked particular from the wound first made.

In the great majority of cases, contrary to what might have been expected, the passage of a bullet through a bone did not affect the appearance of the exit wound.

Effects of the compound bullets on the soft parts.—There were several interesting facts noted regarding the effect of the Mauser bullet on the soft parts.

First of these was a slight disability from wounds through large parts provided no important nerve or vessel was injured, results strikingly different from those which would have obtained with the large calibre lead bullet. Wounds through the neck, fleshy part of the arm and parieties of the chest gave little trouble and men with wounds deeply through the buttock, thigh or leg, walked with little difficulty at most using a cane only. Men with flesh wounds stated that when wounded the

sensation was that of having been struck with a heavy cane, while, when a bone was struck, the sensation was like a blow from a heavy iron bar or club.

Where the soft parts only were involved there was no external evidence indicating any difference in the amount of tissue destruction produced at different ranges.

The two following cases strikingly illustrate both the slight disability from wounds through the soft parts and their aseptic nature.

Case 13. Aseptic, perforating, Mauser bullet wound testicle and thigh.

Lieutenant C. J., First U. S. Volunteer Cavalry, was wounded by a Mauser bullet at about 300 yards range. The bullet entered the right side of the scrotum and passed through the right testicle, passed behind the left testicle, then entered and passed deeply through the right thigh posterior to the femur. On his arrival at the hospital all the wounds were aseptic and nearly healed. He was not confined to his bed, and though he walked with some difficulty he used only a cane. The right testicle was double the normal size, quite hard and sensitive, but with no appearance of infective inflammation. No treatment was indicated other than suspension of the testicle, and he left the hospital July 7th, for the North. November 22, he writes that he is perfectly sound so far as he is able to determine and that there is no atrophy of either testicle. This case forcibly demonstrates the asepticity of Mauser bullet wounds from the known difficulty of complete sterilization of the scrotum.

In the following case the immediate and resulting disability was considerable, but both were slight to what might have been expected from the course of the ball. It is possible that the soft parts were not involved alone and that the greater disability of the left leg was due to a perforation of the femur by the ball.

Case 14. Severe, perforating, aseptic, Mauser bullet wound both hips and perineum.

Private Alexander H. Denham, Troop D, First U. S. Volunteer Cavalry, was wounded at 300 or 400 yards by a Mauser bullet, which entered one and one-half inches below and one inch posterior to the greater trochanter of the right femur, passed behind the femur, then behind the perineum and emerged directly over the femur, two inches below the great trochanter.

From the location of the wound directly over the femur and from the pain in the part, it was thought probable that the left femur was perforated without fracturing, though no probing was done to determine the fact. When the patient reached the hospital the entrance and exit wounds were aseptically closed under a scab. The right leg could be used to some extent, the left leg was useless and gave considerable pain. The perineum and scrotum were much ecchymosed, the bullet having passed not deeply below the surface of the perineum. No evidence of injury to urethra or rectum. The day after his arrival he developed tertian malarial fever, which was rather difficult to control, but in about two weeks he was able to be up and move about on crutches, using his right leg fairly well. The left leg improved slowly and when he was transferred North, August 22, he was still unable to use it. In November he writes, "Am unable to walk without crutches owing to intense pain when weight is placed on left leg. Right leg is not very troublesome though it aches and smarts quite frequently."

Continued in November number.

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It is easy enough to catch a cold these glorious autumn days, but it is not so easy to get rid of one. The man who relies on the vis medicatrix nature is apt to be disappointed and the wise man seeks his physician who immediately prescribes Firnol Comp., with two atomizers and a cleansing fluid, and the results are all that could be desired. Firnol Comp. is a bland and oily compound of active antiseptic properties and is administered preferably by means of a simple and most ingenious spray apparatus made by W. C. Downey & Co., Washington, D. C., who will be glad to send literature about Firnol Comp. and its atomizer and to personally answer letters of inquiry.

Familiar Clinical Pictures.

Among the most prevalent cases that physicians are called upon to treat at this season of the year are pneumonia, typhoid fever and la grippe.

There are, in each instance, well defined, characteristic symptoms of organic disease resulting in disturbances of practically all the functions of the body. In consequence of this morbid process the vital force becomes diminished through the excessive febrile condition, thus checking Nature's normal work. With advance in knowledge in the use of antipyretics, clinical observation based on practical experience at the bedside, reveals the fact that practitioners invariably obtain the most gratifying results from the use of Liquid Antipyretic (Tilden's) in the febrile conditions of the above named diseases; particularly is this applicable in stubborn complications accompanying la grippe. Liquid Antipyretic (Tilden's) antagonizes both febrile and cardiac depression by building up the natural functions of the body, giving Nature the needed opportunity of resuming its normal work, for in so doing it is regarded as one of the most valuable antipyretics at the profession's command.

R. Ammonia Muriat. 1 dr.
Syr. Pruni. Virg.
Liquid Antipyretic (Tilden's) of each 1½ fl. oz.
M. ft. Sol.
S. g. Teaspoonful every 3 hrs. in pneumonia and la grippe.

A Laboratory for Poisons.

It doesn't require much of an argument to show that good material must go into the twenty story building if it is to be solid and secure.

Yet a great many people seem to think that it matters little what kind of material goes into the building of the human structure!

They offer the body thistles and ask it to give back figs.

They feed on thorns and expect to pick roses.

Later, they find they have sown indigestion and are reaping ptomaines.

It's a wonderful laboratory, this human body. But it can't prevent the formation of deadly poisons within its very being.

Indeed, the alimentary tract may be regarded as one great laboratory for the manufacture of dangerous substances. "Biliousness" is a forcible illustration of the formation and absorption of poisons, due largely to an excessive proteid diet. The nervous symptoms of the dyspeptic are often but the physiological demonstrations of putrefactive alkaloids.

Appreciating the importance of the command, "Keep the bowels open," we offer our new "Antikamnia Laxative Tablets," and also our "Antikamnia and Quinine Laxative Tablets." We trust you will find them a convenient and reliable aid to nature in her efforts to remove poisonous substances from the body.

Valuation of Drugs—The Active Distinguished from the Inert by Physiological Tests.

Hitherto the practice has been to fix a standard of strength only for such drugs as are amenable to chemical assay.

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Its use is indicated in Consumption and Tuberculosis, Diseases of the Chest, Chronic Cough, Throat Affections, General Debility, Brain Exhaustion, Impotence and Loss of Memory.

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And Where Nature fails to make Good Blood,
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The Universal Auxiliary of Modern Medicine and Surgery,
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In the more enlightened progress of Modern Medicine, "Blood-letting" has given place to Blood *getting*

Aye! Get Good Blood – but How? Not by the Alimentary Process. It has already failed to do its work (else the patient would not be sick); and in acute disease must not even be allowed to do the work it can. Stimulate as you will, the whole sum of the patient's alimentary power when fully forced into play, is unable to keep up the nourishing and supporting contents of the blood. There is absolutely but one thing to do; and, thank God, that can be done, usually with success, as ten-thousand-fold experience has proved. That one thing is this: where Nature fails to PRODUCE good and sufficient Blood, WE CAN INTRODUCE IT from the arteries of the sturdy bullock, by the medium of BOVININE.

The vital activity of this living blood conserve rests on no man's assertion: it speaks for itself, to every properly equipped physician who will test its properties microscopically, physically, or therapeutically.

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Try it in ***Dyspepsia*** or Malnutrition of young or old, and watch the recuperation of the paralysed alimentary powers.

Try it in ***Intestinal*** or gastric irritation, inflammation, or ulceration, that inhibits food itself, and witness the nourishing, supporting and healing work done entirely by absorption, without the slightest functional labor or irritation; even in the most delicate and critical conditions, such as Typhoid Fever and other dangerous gastro-intestinal diseases, Cholera Infantum, Marasmus, Diarrhœa, Dysentery, etc.

Try it per rectum, when the stomach is entirely unavailable or inadequate.

Try it by ***subcutaneous*** injection, when collapse calls for instantaneous blood supply—so much better than blood-*dilution!*

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Each fluid dram contains: Phosphorus, 1-100 gr.; Iodine, 1-6 gr.; and Bromine, 1-6 gr. Dose—One teaspoonful four times a day.

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This includes, of course, such drugs as nux vomica, opium, and cinchona regarding which standards were formerly adopted at the revision conducted in 1890, and also ipecac and belladonna, which the British pharmaceutical authorities have since added to the pharmacopœia recognized in the British Isles. The American revisers will no doubt include the latter drugs in the new Pharmacopœia of this country, and it is highly probable that they will likewise admit and fix standards for the Calabar bean, gelsemium, hyoscyamus, podophyllum, colchicum, conium, stramonium, and veratrum, all of which lend themselves to chemical analysis.

The question is whether the work of the committee should stop here. Why, it is asked, should no standards be fixed for such drugs as ergot, digitalis, strophanthus, aconite, and cannabis indica? They are all drugs which are in universal use, and their quantitative standard is surely of as much consequence both to the physician who prescribes the remedy and to the patient who takes it as that of any other medicine. "It matters little," as one authority observes, "how much crude ergot goes to the fluid pound of the extract if the fluid fails to produce a characteristic physiologic action." What then is the objection to standardizing these drugs as well as others? Only this, that the drugs in question are not amenable to chemical assay, or at all events cannot in the present state of chemical knowledge be assayed chemically with a sufficient degree of accuracy to justify the fixing of a standard, measured quantitatively. But is this any reason why no attempt should be made to fix a standard by other means? Scientific inquirers conducting private investigations are not content to rest there, and neither are the higher class of manufacturing chemists. Acknowledging and making use of the chemical test whenever it can be applied with satisfactory results, they have recourse to physiologic tests, which as regards the question of potency are for all practical purposes equally reliable. At present, as has been pointed out, a practitioner who writes a prescription, say for digitalis, in a dozen different parts of the same town will find in some instances that he obtains a drug which exhibits a satisfactory physiologic action, and in others no satisfactory action whatever. This is submitting the drug to a physiologic test when it is too late. If, instead of leaving the patient to be experimented on, similar tests had previously been made with the article on some of the lower animals, the potency of the drug would have been known, and the doctor would be aware of the exact strength as well as the nature of the remedy he was prescribing. That the present condition of matters in this respect is recognized by the profession as eminently unsatisfactory was shown by the discussion which took place at the recent meeting of the American Medical Association at Columbus, Ohio, and it is hoped that the Revision Committee will deal with the subject in a sufficiently bold manner to provide an adequate remedy. To this end, however, it is necessary that it should be fortified by expressions of opinion both from medical men and the manufacturers of drugs, it being to the interest of none, so far as we can see, except traders in inferior classes of drugs, to oppose the standardization of as many as possible of the drugs that are used in the practice of therapeutics. *Medical News, N. Y., Sept. 9, 1899.*

Since their introduction the hypophosphites have firmly maintained their hold on professional and popular confidence and today are prescribed alone and in combination by more physicians than any other remedy. This is strong testimony to their superior worth, because of their fine tonic and constitutive properties which have been and will continue to be a means of relief and strength to thousands. McArthur's Syrup Hypophosphites (Lime and Soda) Comp. is a reliable preparation worthy of trial. If a stimulant is needed you may add it. It isn't there when you do not need it as McArthur's Syrup is simply a tissue builder, a permanent tonic.

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The Food Value of Malt and the Digestive Value of the Enzyme Diastase.

Dr. Edwin Rosenthal, of Philadelphia, Pa., says there can be no question concerning the food value of malt, particularly if the preparation represents, as it should, the completely digested grain freed from impurities and also possesses the power to convert the starches of the food into the end products of digestion—dextrin and maltose—ready to be assimilated. It is equally true that, aside from the amount of alcohol contained; most of the liquid malt extracts are of doubtful therapeutic utility. They are possessed of feeble, or not any, diastasic properties, while the acids contained—generated during the process of fermentation—check the digestion of starchy substances. Solid malt extracts may possess diastasic properties, but the many disadvantages—taste, odor, viscosity, etc.—render them ill-adapted to the delicate individuals that usually require concentrated nutriment.

It is a well-established clinical fact that malt preparations are of therapeutic value just in proportion as they possess the ability to convert starches—one of the most important foodstuffs, about two-thirds of the ordinary diet—into assimilable products. The writer, after studying the unbiased reports of analytical chemists concerning the nutritive values, as revealed by chemical examinations, and the diastasic power of the best known malt preparations, selected Maltzyme and its various compounds as being theoretically the best adapted nutrient and digestive adjuvant. The Maltzyme preparations were given a fair, unbiased clinical trial in about thirty cases. One of the striking features concerning Maltzyme was the freedom from the disadvantages which render malt administration disagreeable to delicate patients. The Maltzyme preparations are fluid, not viscid and gummy, they are free from disagreeable odor and taste, and are perfectly miscible with liquids. No complaints were noted, in the entire series of cases, that the preparations could not be taken.—*Am. Gyn. and Obs. Jour. for October, 1899.*

Methods of Using Protargol in Gonorrhea.

Dr. J. Stephen Nagel, (*The Plexus*, June 1899) on the ground of 50 cases successfully treated with protargol, formulates the following general plan of treatment. The protargol injections should be commenced as soon as the discharge appears and continued as long as the microscope shows any of the gonococci present. The treatment should be started with a one-fourth of one per cent solution in distilled water, to be used in a blunt pointed hard rubber or glass syringe. The patient is instructed to inject one syringeful every four hours day and night and to retain it in the urethral canal by compressing the meatus for two or three minutes. At the end of five or six days the strength of the solution should be increased to one-half of one per cent and during the following five or six days the interval between the injections should be lengthened to six hours, and the solution retained for four or five minutes. The amount of protargol should again be increased to three-fourths of one per cent, the interval lengthened to every eight hours, and the period of retention to six or eight minutes. If at the end of the third week a few gonococci are still present, injections of one and one-half per cent should be used twice daily, to be retained in the morning for ten minutes and in the evening for fifteen minutes. In following up this method of treatment an uncomplicated case of anterior urethritis can, in the majority of cases, be entirely and permanently cured in from fifteen to eighteen days.

Dr. J. K. Gailey, Clinical Professor of Surgery, Detroit College of Medicine, in giving his experience with "Maltine with Coca Wine" says, it is unquestionably superior to anything he has ever tried as a galactagogue. In one case, particularly, the mother was enabled to nurse her child, which she had not done with previous children. He considers it doubly efficacious in that it builds up the woman while stimulating the lacteal secretions.

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Canatlan, Durango, Mexico. Sept. 29, 1899.

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NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., NOVEMBER, 1899. No. 6.

Leading Articles.

REMARKS ON THE DESIRABILITY OF A MORE CAREFUL STUDY AND EXTENDED USE OF HYDRO-THERAPEUTICS

Dr. Putnam, the well-known neurologist of Boston, asks the following question in the *Boston Medical and Surgical Journal* of March 9, 1899: Is a "shock," from a sudden application of cold water, useful or objectionable? The latter view is often maintained, both by patients and physicians, but the former is correct, provided only that the shock is proportioned to the habits and the capacity for reaction. Patients are apt to dislike the "shock" of cold water, and if they are feeble or nervous it may, if severe, frighten or fatigue them. For this reason, when an unfamiliar method is first used the application should be warm as 85° to 90°. This will feel cold if the skin has previously been warmed to 100° or higher. On the other hand, the common practice of letting cold water run gradually into a previously hot bath, so that the temperature is slowly lowered and "shock" avoided, is an objectionable one, and much less likely to be followed by a good reaction than a more sudden change, especially if the latter is associated with smart friction, as in the case of the drip sheet or forcible cold affusion given by another person. It is not easy for a patient to make a thoroughly satisfactory cold application unaided except by an immersion bath, since otherwise, at the best, only half the body can be bathed and rubbed at once. The immersion bath at low enough temperatures to be thoroughly stimulating is very refreshing to vigorous persons who are thoroughly habituated to it, but less safe for feeble persons. If the latter must take their bath unaided, rubbing with a large, driping wet towel is perhaps the best method.

Hot baths, at temperatures considerably above that of the body, have primary effects similar to those exerted by cold baths, but secondary reactions are liable to occur, leaving the skin pale and cool and the arterial tone low, and, moreover, the skin is for a time after them abnormally sensitive to slight cold. It is risky, on these accounts, to take hot baths at bedtime, because the primary heat of the skin leads the patient to underestimate the amount of clothing which will be required later, and he may wake to find himself chilled.

These dangers are diminished if sufficient time is taken to allow of complete cooling before going to bed, or if the hot bath is followed by a dashing or rubbing with cold water. Of course there are cases, however, where the sedative action of a prolonged warm bath is very useful. Massage given during warm baths is useful for elderly

people with arteriosclerosis (Jacobi.)

It is a mistake to suppose that shivering is necessarily a sign that the body is becoming chilled to an objectionable degree. Shivering frequently occurs when one rises from bed on a cold morning, and yet wholly disappears, together with a sense of coldness that accompanies it, after a plunge into very cold water. Even blueness of the fingertips is not necessarily a danger sign, since it is usually due to local changes in the cutaneous circulation and not to weakness of the heart.

Children do not require as low temperature as adults to develop such a degree of reaction as can be expected from them, and do not stand severe cold as well.

Where the reaction on the part of the vaso-motor system is to be limited to a small portion of the body, lower tempertures and more prolonged application can be used than where the whole surface of the body is to be exposed.

Where drip-sheets or sheet-baths, or wet packs are to be used, coarse linen sheets or damask table-cloths are better than cotton sheets, as being more absorbent and affording better surfaces for friction.

The mechanical impact of a stream of water delivered under high pressure in form of a douche adds greatly to the stimulant effect, and insures a better reaction. Nevertheless, a feeble patient has to be accustomed gradually to high pressures as to low temperatures, and at first relatively short applications are necessary. In a well-appointed institution greater and readier variability, and thus better results, can be obtained than in a private house.

Especial caution is necessary in applying baths tending to produce much reaction, to elderly persons, or to any person with brittle arteries or with disease of the heart.

In the discussion that followed, Dr. Coggeshall said it had always struck him, in watching the advantage which prominent men, of the class who are our consulting physicians, have over the general practitioner, that it was quite as much in the wider range of their resources in therapeutics as in their superior ability in diagnosis, and it seemed to him that one of the greatest difficulties that the general practitioner labors under is that he has very few medical resources beyond drugs, and that he is apparently unconscious—almost unconscious—of the wide applicability of other means of treatment. Drugs and surgical operations are the widest range of his therapeutic imagination, and if we are to get the best results with a great many forms of chronic diseases especially, and he thought also with a great many acute diseases, it seemed to him that we ought to pay more attention to other means of treatment, and among those in his short experience he had seen none he should attach more importance to than hydropathy. It is commonly thought of as a process of giving people baths, and that there is a difference of temperature. We may give a hot bath or a cold bath; but any one who has studied the work of Baruch in New York or Winternitz in Vienna, and many other eminent men in Germany and other parts of Europe, must realize that hydropathy is a much more complicated subject than the mere question of giving a bath and giving a bath hot or cold. If physicians did realize the amount of benefit that accrues in a wide variety of cases from water treatment in various forms, they would take more

interest in it. The objections to it with the general practitioner are of course obvious and serious. It would take a great deal of time to study the details of treatment. It would be like having to learn a whole materia medica over again almost, and it requires more time to plan the treatment for an individual case than to write the most carefully considered prescription ; and yet he said he could not help believing, from what he saw abroad, and what little opportunities he has had for personal experience since he has been in practice, that the results would repay the additional time and trouble which the careful carrying out of such treatment would require. Then there is the expense, which is, for the finer details of such treatment, out of the question for the vast majority of private patients. He had been able in the case of one private patient to get him to put into the house some of the appliances required for that case, and he said the patient has always felt since that, although he expended some hundreds of dollars on them, he got better money's worth out of it than out of his physician's prescriptions. That, however, would be a very exceptional case.

The only way in which we can carry this treatment out successfully would be to get an institution which would undertake to provide all the apparatus required for the complete system of hydropathy and carry out the treatment of cases under the direction of physicians, perhaps with the assistance of consultation advice as to the treatment in the case from some one who had had a large experience in that kind of therapeutics.

Dr. Coggeshall said another reason why an institution would be an important, in fact, an absolute, necessity to any general use of it would be that it requires skilled assistants to apply the treatment. He had found some very disappointing results in attempting to carry it out in private families, even with the simple forms of baths and giving the most minute directions he could to members of the family. A nurse must superintend and apply the treatment throughout ; and he does not think it is very easy for the patients to do it for themselves, even after they have been under the treatment some time, because one constantly wants to alter the details of the treatment in the same case.

The diseases in which Coggeshall has seen the treatment effect most good were among nervous diseases—hysteria and neurasthenia, in both of which the results appear to be excellent. Among the commoner diseases that in general practice he should think it was most valuable in, for one he mentioned many cases of organic diseases of the heart. He began to use this treatment for diseases of the heart about three years ago, and tried it on the first case with a good deal of hesitation. Now, with the great majority of cases of valvular disease of the heart he sees, he uses it with a great deal of confidence, and generally the results have justified that confidence. He is sure that every case of simple dilatation of the heart is benefited by it, and cases at least of mitral disease have seemed to him, in the comparatively few he has had an opportunity to try it in, to be excellently adapted to it. In the case of the Schott treatment, of course, it includes exercise. Dr. Coggeshall had tried the exercise without the baths in a number of cases, and although he got benefit, he got much less benefit than in the cases in private practice that could afford to have a nurse come to the house and give them the baths as well as

the exercise; and in one case, in which he tried the baths alone, he thought he got as good results as in the baths and exercises combined

In acute diseases the use of baths in typhoid, of course, is familiar to all of us. He thought there was a wide divergence of opinion among physicians who have tried them, as to the benefit, and it seemed to him that a good deal of that divergence was due to the fact that the details of the treatment had not been carefully carried out. He said he remembers visiting a large hospital some years ago in which the visiting physician told him they were using the Brand treatment for typhoid fever, and he said it in rather a skeptical way, which implied that he did not get many results from it and did not expect to. Dr. Coggeshall found he was giving the baths by sponging the patients in bed. That is not Brand's treatment. It is an illustration of the laxness as to the details with which experiments in such treatment are often made. He did not get very good results, and it is thought the treatment was abandoned as the result of experiments which consisted entirely of sponging the patients with cold water. Dr. Coggeshall said he has had very little personal experience in the treatment of typhoid fever with it, but he has had experience in the treatment of two conditions occurring in acute disease which gave him a great deal of confidence in the value of simple cold bathing in such cases, and that is in the matter of convulsions occurring in children in connection with any severe or light disease, and in the treatment of delirium. The effect in delirium in pneumonia or typhoid fever has been, as he has seen it, certainly more marked than any other treatment he has ever seen attempted for it; and in convulsions of children, even in hopeless diseases like tubercular cerebrospinal meningitis, certainly the relief to the symptoms and the greater quieting, the rest, the improved action of the heart which he got from suppressing the convulsions with the cold bath, were well worth the trouble of giving it. Of course, in such cases as this, and in a case of delirium occurring in pneumonia, he found the greatest difficulty in persuading the family that the patient would not be killed by immersing him in water as cold as he wished to put him into. He had tried it in a number of cases, and had not seen any bad results.

Dr. Coggeshall supposed it was fair to class under the water treatment the application of ice-bags to the chest in pneumonia and bronchitis. That is another form of treatment he had used repeatedly, and always, it seemed to him, with some or a good deal of benefit; but if we are to get satisfactory results in such cases as those spoken of, whether in the chronic forms of diseases like hysteria and neurasthenia, or in the treatment of delirium and convulsions occurring in acute diseases, we must attend to the minutiæ of the treatment, and until we do so he thought it was not fair to draw inferences from the results. Dr. Putnam mentioned some examples of fallacies involved in reasoning about the treatment, and Dr. Coggeshall wished to mention one or two others.

He believed Dr Putnam mentioned the fact that the temperature was not much lowered by short cold baths, and Baruch, he thought, was the first who called attention to the fact that although the temperature as taken in the mouth was lower the temperature in the rectum was not materially affected. Some phys-

icians, in thinking of the application of cold bathing to typhoid fever, have apparently assumed that the principal value of it was as an antipyretic, and that it had the same use as acetanilid or phenacetine, except that it might be less depressing. Dr. Coggeshall said he could not believe that that was its value; in fact, as he had tried it, in cases of typhoid fever, he had found there was perhaps one-half degree fall in the rectum, although there might be a marked fall in the mouth; and he had always regarded the rectal temperature as the true indication of the fall, and the mouth temperature as a side issue, to which he did not attach particular importance. He never valued it because he thought it would lower the temperature, but because of its effects on the central nervous system and through that upon the circulation. He believed that was the true value of it in such cases, and if it did act as a nervous stimulant, if it was energetic and lasting in its effects, it was of much more significance than the mere effect on the temperature.

As illustrations of the importance of attention to detail, the speaker said he could give examples of the way in which it is often laid down in the books, that baths should be given at such and such temperature, etc., and if this is carried out by physicians who have not used it much, exactly on these lines without reference to the marked difference we find among patients in their powers of reaction, the method will fail. Two cases will differ very much in the way they will react to treatment; and the details of the packs, the douches, or whatever is being used in the case, ought to be worked out by carefully feeling one's way with regard to that individual patient. Where the reaction was not good he had never hesitated in any form of acute disease to use alcoholic stimulants before the baths, and he would always do that rather than abandon the baths in such cases; and he had found that hot whiskey and water or brandy and water before the bath obviated entirely the unpleasant effect in such cases.

One other illustration of the importance of detail he said he should like to mention was in the method of giving the baths when the patient is not in the tub—the so-called sponge baths. It had always seemed to him that the sponge was the poorest thing that could be used. We cannot get friction from it, and it is cold in a disagreeable way. It is more apt to chill the patient, whereas if rough bathing gloves were used and the cold water rubbed on the patient, instead of being sopped on with a sponge, the effect would be markedly different. One very important factor is the pressure under which the douche or spray is applied, which is independent of the matter of temperature, and that is another thing that makes it in private houses almost impossible to secure the results that can be secured in an institution suited for the purpose. *Therapeutic Gazette*, 1899, xxiii, 465.

CONSTIPATION IN TUBERCULOSIS.

By William Porter, A. M., M. D., St. Louis, Mo.

Professor of Physical Diagnosis and Diseases of the Chest at the Beaumont Medical College; ex-President American Medical Editors' Association; ex-President Mississippi Valley Medical Association; formerly assistant at the Golden Square (London) Throat and Chest Hospital; assistant to Sir Morell-MacKenzie, etc.

(Extract from a special lecture in the 1899

course on physical diagnosis at the College of Physicians and Surgeons, St. Louis.)

In the care of tubercular cases, there is one point that should always be insisted upon, and that is that the lower bowel should never be allowed to become distended with fecal matter and partially digested particles of food debris. I can conceive of no better condition for the retention and development of bacilli than that which exists in a bowel so distended, the muscular fibres of which are weakened by distention, and the mucous membrane congested by the irritating substances retained.

In nearly all such cases of any chronicity, there is dilatation of the ascending and transverse colon, and dullness on percussion of the descending colon. The explanation is simple. Accumulation in the lower bowel with fermentation and retention of gas in the transverse and ascending tracts. Aside from the usual idiopathic sequelæ of constipation, there is the additional danger in tuberculosis of autoinfection from the bowel. I do not believe that we attach enough of importance to this, and yet the reasoning is logical from premise to conclusion.

The patient who is constantly expectorating tubercular matter will certainly receive more or less of it into the stomach, especially in the acts of drinking and food deglutition. The weak gastric digestion, so often present, does not greatly change the activity of the bacilli or the virulence of their ptomaines. These pass into the very tract where absorption is one of the main functions. Is it, then, an unreasonable proposition that much of the general mal-condition in tuberculosis depends upon this manner of auto-infection?

In these days when the subject of limitation of tuberculosis by sanitation is attracting so much attention, it is but natural that our investigations should largely be in the direction of prevention of all outward sources of infection. It is right that the sputum should be mixed with germicides or burned. It is right that the milk and meat should be the objects of careful scrutiny. It is right that the individual should be protected against all danger of germ invasion from those who are already so affected, but it is also right that he should be protected against himself.

Were it not for auto-infection I am convinced that most cases of tuberculosis would be more amenable to treatment. We can all recall cases in which a recognized tubercular condition was for a long time latent. Seeming improvement began. There was a gain in flesh, in strength, in appetite and in courage. Then an explosion occurred. The afternoon fever, night sweats, loss of appetite, irregular action of the bowels, all appeared and yet no tangible extension of the local pulmonary lesion. Does this not suggest auto-infection? The very fact that impaired assimilation is so early a complication in tuberculosis, is a fact that adds to the plausibility of this hypothesis.

Indeed this deduction has come to be more than an hypothesis, it has all of the authority of a recognized fact. The physician who neglects this part of the treatment and permits the lower bowel to become a receptacle for the retention, increase and absorption of material containing so much active poison as the tubercular sputum—that physician must not be surprised, if in spite of his efforts in other directions, his patient steadily declines.

I cannot but think that some of the

good results credited to creasote, guaiacol and other remedies of this class, is due to their immediate action in the intestinal tract, either as germicides, or in rendering the condition of the intestine uninhabitable for the bacillus and in counteracting the influence of the ptomaines. It has now become my practice to order a high enema once or twice a week that the lower bowel may be well emptied and kept in as aseptic a condition as possible.

The same inertness may and I believe does prevail in the small intestine, notably just above the appendix and in some cases through much of the extent of the whole lower bowel. Here no enema can reach and yet a frequent evacuation is necessary, if the above noted conditions are present. Drugs that irritate, or have a marked drastic action are to be avoided. It has been the custom of many to give strychnia, aloin, etc., and yet it is manifestly wrong that a stimulant and whip, even when guarded by belladonna, should be used to urge to activity and compel action of muscular fibres already exhausted and weakened by distention.

It is much more rational, I take it, to give a mild saline after the lower bowel has been well emptied by the enema. For some time the phosphate of soda has been my favorite remedy, but it does not meet all of the indications, especially where there is the complication of lithæmia, or urine with excess of phosphates, as often found in tubercular cases. Moreover it has been my experience that this agent loses it effect after a short time unless the dose is increased repeatedly.

More recently I have used, with satisfaction, thialion, which combines the properties of a laxative salt with those of lithia. It has the additional virtue of acting upon the uric acid diathesis, which so frequently hinders the recuperative progress and is so often a complication of faulty intestinal digestion.

I give a teaspoonful dissolved in a cup of hot water and drunk as hot as possible every morning early after waking, or the same dose given in the same way the last thing before retiring at night.

Thialion performs a fourfold function, all of which tend to help the patient. First, it acts thoroughly on the bowels increasing peristalsis; second, it relieves the torpid condition of the liver, increasing the flow of bile; third, it acts on the kidneys, increasing the quantity of urine voided; and fourth, it eliminates the uric acid from the body.

Since paying more attention to this phase of the treatment in tubercular cases, I have been able to largely reduce the amount of creasote indicated and in many cases the reduction of temperature has been very noticeable, following the administration of enemata and the saline. Why not?

It must be remembered, however, that this treatment is not to be pushed too far. Frequent examinations of the abdomen by palpation and percussion should be made and the treatment regulated accordingly. The thialion salt should be given in small doses, well diluted in hot water and after the bowel has been well emptied. I prefer administering it at bed-time. This will not interfere in any way with gastric digestion.

I strongly object to the continued administration of salines, even when well dissolved and largely diluted, in close proximity to a meal in all cases of impaired gastric digestion. I know that

experimentors have found in the laboratory, that the exhibition of some of the milder alkalies stimulates the secretion of hydrochloric acid, but it must be remembered that such experiments are generally made upon organs with healthy functions. In cases where the alkalies, bicarbonate of soda for instance, do produce a better gastric action when given near the time of eating, I believe it is because of its reaction with the lactic and fatty acids.

Much of this I know is apparently direct opposition to the teachings of the physiologist and yet there is no real contradiction. Sherican Lea has shown that in natural gastric digestion, conditions are favorable for the rapid absorption of soluble salts, but we are not dealing with natural gastric conditions. Besides this, whatever of the salt remains unabsorbed, certainly neutralizes to some extent, the hydrochloric acid.

This may be a lengthy plea for so seemingly an unimportant proposition, but in caring for these cases nothing is unimportant—certainly nothing affecting digestion. Therefore I repeat, that in all tubercular cases where a saline laxative is needed, it is better to give it at bedtime.

It is not by the use of any one agent, serum, creasote, tonics, diet, rest or what you will that we can confidently expect to cure, as we may now do, many cases of tuberculosis formerly considered hopeless, but by a proper application of every method indicated. Of these I am sure the one above discussed is not the least.

A LITERARY CURIOSITY.

The following is a quotation from "The Devil on Two Sticks," by Foote, A. D., 1768. (Reprinted in the *British Drama*, London, William Miller, 1804.)

Dr. Hellebore :

Brethren and students, I am going to open to you some notable discoveries that I have made respecting the source, or primary cause, of all distempers incidental to the human machine. And these, brethren, I attribute to certain animalculæ, or piscatory entities, that insinuate themselves through the pores into the blood, and in that fluid sport, toss and tumble about, like mackerel or codfish in the great deep : And to convince you that this is not a mere *gratis dictum*, an hypothesis only, I will give you demonstrative proof. Bring hither the microscope. (*Servant enters with microscope*). Doctor Last, regard this receiver. Take a peep.

Dr. Last :

Where ?

Dr. Hellebore :

There. Those two yellow drops there were drawn from a subject afflicted with the jaundice. Well, what d'ye see ?

Dr. Last :

Some little creatures like yellow flies, that are hopping and skipping about.

Dr. Hellebore :

Right. Those yellow flies give the tinge to the skin and undoubtedly cause the disease. And now for the cure ! I administer to every patient the two-and-fiftieth part of a scruple of the ovaria or eggs of the spider ; these are thrown by the digestive powers into the secretory ; there separated from the alimentary, and then precipitated into the circulatory ; where, finding a proper nidus or nest, they quit their torpid state and vivify and upon vivification discerning the flie their natural food, they immediately fall foul of them, extirpate the race out of the blood and restore the patient to health.

Dr. Last :

And what becomes of the spiders ?

Dr. Hellebore :

Oh, they die you know for want of nutrition. Then I send the patient down to Brighthelmstone and a couple of dips in the salt water washes the cobwebs entirely out of the blood.

THE NATIONAL MEDICAL REVIEW,

EDITED BY

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AND

THE MILITARY SURGEON,

A SUPPLEMENT.

OFFICE: 1134 Fifteenth Street, N. W.

WASHINGTON, D. C., NOVEMBER, 1899.

Editorial.

A patient, upon placing himself under the care of a physician, has every right to demand the exercise of proper diligence and the adoption of every possible precaution in the treatment of his affection. When, therefore, it becomes necessary to prescribe medicine, it is an essential part of a physician's duty to see that his patient receives what is ordered; that the drug or compound is identically what is prescribed, and is of the proper quality, purity and strength. For a number of good reasons, it is impossible for the attendant to himself prepare and dispense the remedies to be taken. He is forced to depend upon the druggist to do this and is thus compelled to assume responsibility for the acts of another. The only way in which he can relieve himself of this enforced responsibility, is by directing his patient to procure what is necessary from a druggist whose business character is unblemished, and whom, in all matters, he can trust. A physician should warn his patients against a pharmacist who employs unqualified assistants, who is careless about the character or variety of his stock, or who is addicted to the crime of substitution. The word "crime" is used advisedly; for what could be more criminal than the triple fraud and deceit of substitution! The manufacturer, who expends time, talent and money in the preparation and exploitation of an article, is defrauded when another is substituted for it. The physician, who has prescribed a certain drug or compound, relying upon its known effects in similar conditions, is grossly deceived, and his ability and judgment brought into undeserved disrepute. And, worst of all, the chief injury is meted out to the suffering, innocent and trusting patient, whose health, nay life, may thus be jeopardized.

The chief duty of a physician is to his patient. He must likewise guard his own reputation with jealous care. To quit himself of these two obligations, he must at all hazards see that his patient is directed to a druggist who is honest and careful, and should unhesitatingly expose him who, solely for the sake of trade, inflicts injury, often irreparable, upon all who come in contact with him upon those whom he is under every moral obligation to protect.

Notices and Reviews.

A TREATICE ON SURGERY, BY AMERICAN AUTHORS. Edited by Roswell Park, M. D. New condensed edition in one royal octavo volume. Cloth, $6.00, net, leather, $7.00 net. Lea Brothers & Co., Philadelphia.

Professor Park thinks that the great demand for the two volume edition of the well-known Treatise on Surgery which he so ably edited, warrants the belief that a somewhat condensed edition in a single volume and at a correspondingly lower price would add to its popularity. Advantage was taken of this opportunity to revise the work to date, though, as it was really in advance of the times at its original issue, no organic changes have been found necessary. The essentially new treatment originally bestowed upon certain topics has been approved; for instance, the distinction everywhere maintained between hyperæmia and inflammation, the insistence upon the practical importance of bacteriology, and the development of the subjects of auto-intoxications and the surgical sequelae of acute non-surgical diseases. This condensed edition maintains the convenient division into general and special surgery, and this preserves the conformity of the work with the surgical courses rapidly becoming universal. It answers the need of students as well as of those who desire a comprehensive and practical single-volume work on modern surgery. The reduction in price will commend itself to intending purchasers.

PRACTICE OF MEDICINE. By Dr. George E. Malsbary. Lea Brothers & Co., Philadelphia. 1899. Price, $1.75 net.

This volume forms one of Lea's series of pocket text-books and has just been issued. It is a handsome duodecimo of four hundred and five pages with forty-five illustrations. It is the intention of the publishers to issue sixteen handy-sized and very legible books which are designed to give a simultaneous and authortiative voice along the entire front of present-day medical science. The student possessing the knowledge to be obtained from this library will be unusually well equipped for examinations and practice, and the practitioner will be able to post himself easily and inexpensively on any branch of medicine and surgery. Dr. Malsbary is well equipped to handle the important subject of practice of medicine and shows his command of its present status.

LABORATORY MANUAL OF PHYSIOLOGICAL CHEMISTRY. By Elbert W. Rockwood, B. S., M. D. Extra cloth, $1.00 net. The F. A. Davis Co., Publishers, Philadelphia. 1899.

Almost all teachers are now convinced of the superiority of the laboratory method of instruction over the didactic, believing that it is only by practical work that the student can become familiar with the physiological changes in progress in the animal body and their products. Dr. Rockwood aims to impart accurate knowledge through the student's own observation. He includes with the directions for experimental work a brief explanation of the facts observed, so as to call attention to their meaning. Some acquaintance with general chemistry and with chemical manipulation is presupposed. The book is exceedingly valuable to students of physiological chemistry.

DISEASES OF CHILDREN. By Dr. George M. Tuttle. Lea Bros. & Co., Philadelphia. 1899. Cloth, $1.50, net. For sale by Lowdermilk, Washington, D. C.

The author whose extensive experience in both teaching and practice has particularly fitted him for the task, has prepared a work which must prove of great value to teacher, student, and practitioner alike. In logical and natural order he has stated concisely and in interesting form the whole story of the present status of this important branch of medicine. The physiology of infancy, as the basis of this department of medical science, is thoroughly covered; artificial feeding and development receive careful attention, and the entire book is

practical and trustworthy. It may be added that this is another volume of Lea's series of pocket text books.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1898. Washington, Government Printing Office. 1899.

This is the twenty-seventh annual report of the Marine-Hospital service and marks the one hundreth year of its existence. There are many interesting reports in the volume and the entire contents show the value of the work done by this service. Of special interest at the present time is Dr. Wasdin's paper on the value of the autopsic findings in cases that have died of suspected yellow fever. The director of the hygienic laboratory, the learned Dr. Kinyoun, whom all Washington was so sorry to lose, gives among other valuable reports, one on the bacteriological examination of Potomac water supply, a matter of such vital importance to this section of the country that we hope Congress will read attentively and heed quickly.

THE NERVOUS SYSTEM. By Lewellys F. Barker, M. B. Tor. D. Appleton & Co., N. Y. 1899.

This is truly a marvelous book and a monument to the author's industry and talent. In the first part of the volume the newer conceptions of the histology of the central and peripheral nervous organs are reviewed. In the succeeding chapters the neurone conception is applied—that is, the cell doctrine—as consistently as possible, in the explanation and description of the complex architectonics of the nervous system. The term neurone is used throughout in the widest sense to mean a cell belonging to the nervous system with all its parts, not in the more restricted sense in which many authors employ it and to which objection has in many quarters quite properly been taken. The work represents the results of long and careful study and scientific research in the anatomy and physiology of the nervous system in man. The subject is one which more than any other since the beginning of scientific records has occupied the minds of thoughtful physicians in all countries of the world. The results of study in this domain have led, within the past decade, to a complete revolution in our ideas concerning the elements of the nervous organs and their architectura relations. It is in the light of these advances that the author has carried on his investigations with such brilliant results.

PROGRESSIVE MEDICINE.—Volume III. A Quarterly Digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by Hobart Amory Hare, M. D., Lea Brothers & Co., Philadelphia.

The third volume of Progressive Medicine presents carefully prepared and exhaustive papers upon the following subjects: Diseases of the Thorax and its Viscera including the Heart, Lungs, and Blood Vessels, by Professor William Ewart, of London; Diseases of the Skin, by Prof. Stelwagon, of Philadelphia; Diseases of the Nervous System, by Prof Spiller, of Philadelphia; and Obstetrics, by Dr. R. C. Norris. Progressive Medicine presents, in an original narrative form, a full and clear statement of all practical advances made in every department of medicine and surgery during the year, each specialty being dealt with by a single authority whose reputation gives ample assurance of accuracy and completeness. The personal impress of the contributor marks every page, the narratives present their data in due and instructive connection, enchaining the interest, economizing time yet giving ample and detailed consideration to all matters which are of interest in actual practice. The ready application of all recent advances in improvements, discoveries, and methods thus becomes a portion of the mental equipment of the reader, prepared for instant use when emergency arises. The volumes are handsomely bound and abundantly illustrated in the best manner.

Progress of Medicine.

The Morbid Anatomy of Tuberculosis in Childhood.

As the result of observations made in two hundred and sixty-nine cases of tuberculosis in children, Still (*British Medical Journal*, August 19, 1899) concludes that the commonest channel of infection with tuberculosis in children is through the lungs. Infection through the intestine is less common in infancy than in later childhood. Milk, therefore, is not the usual source of tuberculosis in infancy, perhaps owing to the precautions taken in boiling, sterilizing, etc. Inhalation is much the commonest mode of infection in the tuberculosis of childhood, and especially in infancy. The overcrowding of the poorer population in the large towns is probably responsible for much of the tuberculosis of childhood, and prophylaxis must be directed to the prevention of this overcrowding, the improvement of ventilation, and the inculcation of the extreme importance of fresh air during the earliest years of life. *Medical Record*, N. Y., 1899 lvi, 592.

On the Destruction of Mosquitoes—A Contribution to the Study of Culicidal Substances, Bearing upon the Prevention of Malaria by this Means.

In an article with the above title Drs. Celli and Casagrandi, of Rome, reach the following conclusions:

1. Of the whole period of the cycle of development of mosquitoes, the stages in which they are most easily destroyed are those of the larvae and of the aerial mosquito; in the former stage they are the more easily killed the younger they are.

2. To kill the larvae, among all the very numerous substances experimented with we have in decreasing order of culicidal action: (*a*) Among the mineral substances; sulphurous oxide, permangante of potash with hydrochloric acid, common salt, potash, ammonia, carburet of lime, corrosive sublimate, chloride of lime; and then the bisulphties, sulphate of iron and of copper, lime, bichromate of potash, sodium sulphite. (*b*) Among the organic substances: powders of the unexpanded flowers of chrysanthemums, tobacco, petroleum and oils, formalin, cresol, certain aniline colors (gallol, green malachite), coal tar.

Taking into consideration, however, the necessary larvicidal dose, the practicability, and the price, all the mineral and some of the organic substances must be excluded, and there remain the vegetable powders, petroleum, and the aniline colors.

3. To kill the aerial mosquitoes we have odors, fumes, and gases. In the first place, among the odors we have the essential oil of turpentine, iodoform, menthol, nutmeg, camphor, garlic; among the fumes that of tobacco, chrysanthemum powder, fresh leaves of eucalyptus, quassia wood, pyrethrum powder; among the gases, sulphurous oxide. It is, however, to be noted that for these odors, fumes, or gases to exercise their culicidal action they must fill or saturate the whole ambient; otherwise they produce only apparent death, or at the most only a culicifugal action, which sometimes in houses may be useful in protecting man from being bitten by mosquitoes, and in preventing the latter infecting him, when they have sucked the blood of malarious persons.

4. The problem of the destruction of mosquitoes is experimentally soluble; but practically it will only be so when economic interest desires it. In this latter sense it is remarkable that the old larvicidal use of petroleum has not become much diffused even in those places where it is very cheap; and it is probable that those substances which destroy other aquatic creatures injurious to agriculture will be preferred, and perhaps still more those which can be had by cultivating them on the spot. For example, by growing on a large scale the chrysanthemum plants (*Chrysanthemum cinerariaefolium*, etc.), from which the culicidal powders are obtained, it is very probable that one will succeed in making the malarial place itself produce that substance which will free it of the mosquitoes that infest it.

5. The opportune season for killing the larvæ is the winter, when they are in least number in the waters, and new generations are not born; consequently, this is the time most easy for attacking them. Destroying mosquitoes in houses is always possible, but to have the greatest effect it is also best to do it in the winter, when they all take refuge in inhabited places, or wherever else they repair. The more complete knowledge of their habits—that is, of the places where and the season when they nest—will aid very much the success of this destruction, which, even in the most favorable cases—that is, when hydraulic improvement (*bonifica*) will have exhausted its task—will not be such an easy work on a large scale as some persons believe and boast. Nevertheless, after the treasures spent by nations and private individuals for preserving vines from the oidium, the peronospora, and the phylloxera, we may hope that something will be done for protecting the life of man from the mosquitoes of malaria. *Therapeutic Gazette*, 1899, xxiii, 649.

Some Enormous Tumors.

The *Lancet* has lately presented some remarkable records of tumors. The largest known uterine tumor weighed 195 pounds, described by a Bucharest physician. Hunter of New York removed one weighing 140 pounds from a woman whose weight without the tumor was 95 pounds. The largest fibroid is said to have weighed 106 pounds. The record for ovarian tumors is held by a Chinese patient, who had one weighing 169 pounds; without it she weighed 77 pounds. For mammary tumors a case is recorded in which the growth in one breast weighed 46 pounds and in the other 40 pounds. *Medical News*, 1899, lxxv, 532.

The Mosquito as a Disseminator of Malaria.

Of great interest was the paper by Professor Grassi of Rome, presented at the meeting of the German Naturalists and Physicians, recently held at Munich, concerning the inoculation of malaria through the study of the anopheles. According to Grassi, Koch has simply repeated the investigations and confirmed the results of Ross and Bögeln, and has made no direct experiments on man. Such, however, were made by Grassi and his co-workers, Bignani, Bartianelli, and Dionissi, in the damp, feverish surroundings of Rome, and through study of the zoological side of the question very weighty results were obtained. Grassi differentiated three species of parasites found in the red blood-corpuscles, namely, hemameba malaria, vivax and precox. In all three species, which by many are looked upon as one, an asexual multiplication takes place in the blood of man, and finally so-called half-moon forms, with flagellæ, are seen. As in other protozoa, so also in the malarial parasite sexual multiplication finally occurs. This takes place in the blood after its ingestion by the mosquito. The flagellated crescents are the spermatoids and other larger bodies, the ovoids. In the mosquito fertilization follows, while in man the forms remain sterile. From this union there is found in the intestine of the mosquito a gregarinaceous stage, in which the young sporozoa develop. These finally become freed, are absorbed, and find their way to the salivary glands, so that when the mosquito stings they are injected into man, and the cycle is again completed. This occurs only with the mosquito known as anopheles, and not, as Koch believes, in the apicus culex, since experiments with the latter have always given negative results. For the development usually a temperature not less than 16° C. is required, and better 20° or more, which is found in the mosquito. From January to May the forms are absent in the mosquito. *Medical News*, 1899, lxxv, 533.

Prognosis of Nephritis.

Drs. R. C. Cabot and F. W. White in the *Boston Medical and Surgical Journal* publish a paper based upon a study of 332 cases of nephritis. The authors ask: "Does a case of chronic nepthritis, certified as such, ever recover?" They then proceed to define what they mean

by chronic nephritis and by recovery as follows:

1. We recognize two important types of chronic nephritis: (*a*) Chronic diffuse nephritis, and (*b*) Interstital nephritis.

(*a*) By chronic diffuse nephritis we mean a disease characterized by prolonged anasarca and effusions into the serous cavities, early and pronounced manifestations of uremia, such as headache, vomiting, and dyspnea; vascular changes, such as cardiac hypertrophy and a high tension pulse, and a pale urine usually diminished in amount, containing a large amount of albumin, with an abundance of fatty elements in the sediment.

(*b*) By chronic interstitial nephritis we mean a disease of insidious onset and long course, with comparatively early appearance of the vascular changes above mentioned, and little or no edema until the heart fails, with late and usually less marked uremic symptoms, a large amount of urine of low specific gravity, with albumin present in very small quantities if at all, and a sediment containing usually only a few hyaline and granular casts.

2. We consider a patient to have recovered when he has no subjective symptoms characteristic of nephritis, and passes normal urine.

In reference to cardiac enlargement and its relation to prognosis, the authors state that the occurrence of hypertrophy of the heart is universally acknowledged as marking the advance of the disease beyond the curable stage. This is borne out by their statistics of 104 cases in which cardiac enlargement was demonstrated. Only three lived more than two years from the date at which the enlargement was demonstrated. Defining their terms in this way, an analysis of 304 cases of chronic nephritis which the authors were able to follow up till death, or till the present time, showed but 17 cases whose urine and general condition gave evidence that recovery had taken place, and in some of these 17 the diagnosis was, the authors think, doubtful. Finally, they offer the following summary of their conclusions:

1, Chronic nephritis is not an absolutely incurable disease. Recovery occurs in rare instances.

2. Chronic nephritis may exist for a long series of years without causing any apparent constitutional disturbance.

3. The average duration in 332 cases of chronic nephritis was nineteen months.

4. Acute nephritis is less common than has been supposed; many cases formerly diagnosticated as such have been shown to represent exacerbations in chronic nephritis. *The Post Graduate*, 1899, xiv, 817.

The Diet of the Neurotic.

Dietetic therapeusis of the neurotic is discussed by Henry C. Eyman in the *Journal of the American Medical Association* of August 26, 1899, who emphasizes the need and importance of the tissue-builders.

To certain patients a meat diet is most valuable, while others do better on milk, fish, and the farinaceous foods. Hypophosphites and pepsin with oil may encourage the taking on of fat. In some forms of neuroses, with dry skin, irritability, and motor restlessness, a meat diet and hot water are particularly indicated.

The melancholic dyspeptic, of foul breath, coated tongue, and constipated bowels, is greatly to be helped by proper diet—*e. g.*, before getting out of bed, a cup of hot water with a dash of brandy; a breakfast of meat and eggs; lunches at eleven and two, of beef tea or cocoa, crackers, milk, and fowl; dinner at six, consisting of broiled fish, roast beef, green peas, and asparagus and toast; at beadtime, a light meal with a small amount of some malt liquor. Milk or egg-nog after midnight is often of great service to the restless, depressed patient.

Fresh air and exercise are of course most important adjuncts to dietary therapeusis, but fatty foods, milk, ham, cod-liver oil, beefsteak, fish, fowl, farinaceous foods, eggs and malt preparations are all of advantage, and ale and porter oftentimes work wonders with melancholiacs. To the gouty—those of uric acid tendencies—farinaceous foods and nuts will prove of especial service. *Medical Age*, 1899, xvii, 758.

OF THE DISTRICT OF COLUMBIA.

Continued from October number.

Considering the course of the bullet through both thighs and the perineum the amount of grave injury was remarkably small. It was illustrative of the many instances where, from the course of the small calibre bullet, injury sufficiently grave to threaten life would naturally have been expected

Wounds of blood vessels.—But one case was observed in which an artery had been wounded. When full statistics shall have been obtained of the wounds it will be of great interest to note in how many cases this complication occurred and recovery resulted. Arguing from this single case which came under my observation, convalescent wounded, with this complication were rare.

Wounds of nerves.—There were two cases in which nerve injury was a complication and from these it would seem that nerves do not evade the compound bullet but are easily severed by it.

Wounds of the joint capsules.—There was one case in which the capsule of the joint and the tissues about it were wounded without bone injury and one in which the bone also was possibly involved. In both cases disability resulted from fibrous, partial anchylosis.

Perforation of important parts and organs by the compound bullet.—In wounds by the compound bullet a most marked circumstance noted was the passage of the bullet through parts where it would not have been thought possible that a missile could pass without fatal or at least most serious injury.

The following cases of deep perforation of the neck and of the thorax and abdomen are illustrative:

Captain C. W. T., Ninth U. S. Cavalry, was wounded July 2d by a Mauser bullet at about 300 yards range. The bullet entered the right side of the neck at the inner edge of the sterno-mastoid muscle at the level of the upper border of the thyroid bone, passed downward, backward and to the left and emerged one inch to the left side of the 7th cervical spine.

On his arrival at the hospital the entrance and exit wounds were aseptical and characteristically small and there was no evidence of inflammation along the bullet track. The left arm was swollen and partially paralyzed and sensation was diminished. The areas of paralysis and anæsthesia indicated that the bullet had severed the 5th or 6th cervical nerve.

There was considerable pain in the arm, forearm and hand but no other special symptoms and he was otherwise in good condition. He was able to travel and left the hospital July 11th for the North. In the latter part of November he states in reply to inquiry "Left arm crippled but improving, very painful."

In view of the anatomy of the neck it would seem that his head must have been turned strongly to the left when he was struck, otherwise the ball would have injured the spinal column but even with his head turned it is hardly conceivable how the ball passed outside the line of the transverse processes of the vertebræ.

Wounds of the body cavities by the compound bullet.

Three cases were observed where the body cavities had been penetrated and their contents injured—one of the skull, one of the thorax and one of the abdomen. These cases were all noticeable for the absence of grave symptoms and for rapidity of recovery.

Compound bullet wound of the head.

Robert S. Volz, Seaman, U. S. Navy, May 11th, received four Mauser bullet wounds at unknown range. One bullet perforated the scalp in the occipital region and cut out a furrow through both tables of the skull as neatly as though done by a carpenter's gouge, at the same time cutting the dura mater and lacerating the brain. The patient was brought to Key West and on the morning of the 13th the wound was laid open under aseptic precautions. Brain matter was oozing from the opening in the skull but as there was no depression of the inner table, the wound was thoroughly cleansed and closed with the exception of an opening in which a small iodoform gauze drain was placed. The patient complained of some headache which gradually disappeared and in a few days he was up and about the hospital.

Perforating compound bullet wound of the thorax, with involvement of the lung.

Like the perforating wound of the brain given above, this case was most noticeable on account of the quick return of the patient to duty, for though the bullet passed through the wounded man's arm and chest he insisted upon returning to duty and rejoined his troop within ten days after the receipt of the injury.

Second Lieutenant W. C. S., 6th U. S. Cavalry, was wounded by a Mauser bullet at a range of about 400 yards. The bullet passed through the body of a man standing directly in front of him, entered the outer side of his right arm midway between the elbow and shoulder, passed through the arm behind the bone n a line parallel with the ground, entered his right side 2⅜ inches below the axilla in the mid-axillary line and emerged ¼th of an inch to the right of the spine.

There was great pain in breathing and a troublesome and painful cough but no other noticeable symptoms.

In spite of the wound this officer left the hospital two days after his arrival and returned to duty. In December he writes that he is entirely well except that his arm troubles him when he attempts to raise it very high or when it receives a severe wrench.

Compound bullet wound of the abdominal cavity.

H. H., Seaman, U. S. Navy, age 22, was wounded May 11th by a Mauser bullet, exact range unknown. The bullet entered the right hypochondriac region, passed through the right lobe of the liver and made its exit at the back about two inches external to the spinal column. The shock was very severe but there was no evidence of internal hemorrhage, at least none of any account. He was brought, May 14th, to hospital at Key West Barracks. He had rallied from the shock, pulse and temperature normal, general appearance excellent. As the wound was 48 hours old and the condition of the patient almost marvelously good laparotomy was of course not indicated. May 28th he was transferred to the General Hospital. When admitted the wounds of entrance and exit were healed, he had been walking about for several days and complained of nothing except a sensation of weakness about the hepatic region. His further history says: "Suffered at intervals from nervous and bilious attacks and was invalided from the service July 28th."

The excellent result in this case of the abdominal wound is in a line with the result in several other cases treated by

the expectant plan during the late war, while all cases operated on died.

Laparotomy for gunshot wounds in order to be effective has to be done within a very short time after the receipt of the injury.

Previous to the experience gathered in this war, many writers, arguing from the standpoint of laparotomy in civil hospitals where there are all the appliances necessary for asepsis, held that laparotomy for gunshot wounds would become a recognized principle in military surgery. The attempt to carry out this principle was so disastrous, and as several cases of abdominal wounds recovered under the expectant treatment, it may now be considered as settled that laparotomy should only be resorted to in those cases in which the surgeon is sure that death will occur without it.

Penetrating compound bullet wounds.

Of the 196 jacketed bullet wounds, 18, or a little over 9 per cent were penetrating. The percentage of penetrating to perforating wounds, of which there were 151, was somewhat higher, being a little over 11 per cent. This rather high percentage of penetrating wounds was undoubtedly largely due to the long range at which the wounds were received or to their having been made by bullets which had lost much of their velocity. This is attested by the fact that of the 18 penetrating cases 9 were lodged very superficially and were removed at the field hospitals, while of the 5 which had lodged more deeply and which I had located by the Roentgen Ray and removed, 2 were slightly deformed and were lying butt end foremost in the part and two were fragments of bullets, indicating that they had struck some other object before entering.

In several instances lacerated wounds were made by penetrating bullets.

These cases show that the penetrating compound bullet when ricocheted makes wounds of entrance as liable to be infected as those made by lead bullets.

Taken together with the cases of pentrating shrapnel bullets the lacerated wounds made by the small calibre bullet show a class of gunshot wounds unlike the aseptic perforating wounds made by the same bullet as they require in treatment the resources of modern antiseptic surgery.

Effect of the compound bullet on bones.—

Of the 198 compound bullet wounds 38 or a little over 19 per cent involved the bones.

No conclusion as to the difference in effect produced at different ranges could be reached. In a great majority of cases the range was not definitely known and could be guessed at in a general way only, though nearly all the wounds were thought to have been received within 600 yards. The range of the Mauser was so great and the terrene so broken and woody that the men were usually unable to give any definite information as to the distance. Added to this was the impossibility of determining in all cases whether the injuries were produced by bullets in flight or by ricochet balls which had in part lost their velocity.

Relative to effect the important fact was noted that practically all fractures were considerably but not greatly comminuted.

Of the special kind of fracture produced there were two cases of explosive effect; two cases of fracture by contact; one probable case of perforation without fracture:

and one case where the bullet made a clean gutter through the skull.

In one explosive case the distal half of a metacarpal bone was blown completely out, in the other the femur was practically destroyed for five inches of its length, being badly comminuted and partially reduced to bone sand. In both cases fragments of bone were driven out through the exit wound, one fragment driven out being 2 inches long and ½ an inch wide yet the entrance wound, strange to say, did not differ in appearance from the ordinary wound.

In several cases the fractures were complicated with quite extensive subcutaneous destruction of the soft parts. This is a complication which in spite of the aseptic character of the wound will be productive of a certain amount of disability in such cases, from the destruction of tissue and the formation of cicatrix in the wound.

All the cases ran extremely favorable courses. The progress of the uncomplicated cases where the wounds were aseptic differed in no way from the usual course of simple fractures. Where the wounds were suppurating they were explored, thoroughly cleansed and all loose fragments of bone removed. The result was most gratifying for in all there were practically no febrile symptoms and absolutely no septicaemia. The favorable course of these cases was a most marked illustration of the value of the application of antisepsis to infected compound fractures.

Roentgen ray observations were made in all cases and the fluoroscope proved of great value in ascertaining the amount of comminution and whether or not the broken ends of the bones were properly approximated when set.

The following case of fracture of the thigh was particularly interesting in that the explosive effect was marked and was produced within the range where explosive effect occurs.

Apprentice, 1st. class, U. S. Navy, was wounded May 11th, by a Mauser bullet at unknown but not long range.

The bullet entered the anterior and inner aspect of the thigh at its middle, passed backward and downward through the femur and thigh and then through the outer side of the calf of the leg. He was taken to the Post Hospital at Key West.

The severity of the injury was apparent and he was anaesthetized for examination and operation if necessary. The first wound of entrance was round, small and "punched out;" the first wound of exit was also round, slightly lacerated at the edges and would barely admit the tip of the index finger. It was enlarged and the condition of the fracture carefully examined. The bone was found greatly comminuted, with several fragments entirely loosened from the periosteum and with considerable "bone sand" in the track of the bullet. It was apparent that fully five inches of the femur was destroyed and amputation at the junction of the upper and middle thirds was performed but the patient succumbed to shock shortly after the operation was completed. On examining the amputated limb the destruction of tissue in the soft parts in the neighborhood of the fracture was found to be great, a condition which is undoubtedly frequently present in cases where the bone has been greatly shattered by the bullet and which must have an effect in producing subsequent impairment of function through the formation of a large amount of cicatricial tissue. The greater part of the bone for 5 inches of its

length was reduced to bone sand and small fragments and the remainder was completely fragmented. On examining the leg the second wound of entrance was found to be quite large and lacerated and in the tissues beneath was found bone sand and numerous fragments of bone—the largest 6x2 centimetres—which had been carried from the femur through the first wound of exit and driven into the tissues of the calf by the force of the ball. The carrying of bone out of the wound was observed in one other case where an explosive effect was produced and is probably a condition frequently connected with this effect of the compound bullet.

In reviewing these 202 cases I think it can be safely concluded that much has been gained both by the use of modern surgical methods and the new bullet. Many of the cases, if wounded by the old bullet, would have been killed outright and others, if treated by the old methods, would have had to suffer amputation, protracted suppuration, septicaemia, pyaemia, hospital gangrene, and would, even if eventually recovering, have had to undergo long prostrating illnesses, while many never would have recovered at all.

In the Civil War 33,653 of the 235,585 who received gunshot wounds died, a proportion of 1 in 7.

How many of the wounded in the Spanish-American war died is not yet known, but the Report of the Commission on the Conduct of the War Department says: "All reports show that the percentage of recoveries was extraordinarily high, due to the combined influence of small calibre bullets, first aid dressings and skillful aseptic and antiseptic treatment."

Also, relative to the humane effect of the compound bullet, though not germane to this paper, it may now be stated that the proportion of killed to wounded has not been increased by its use.

Previous to this war much speculation was indulged in as to what the proportion of killed to wounded would be in battles in which the forces were armed with the small calibre rifle and some held that owing to the supposed peculiarly destructive action of the new bullet the killed would even exceed the wounded in number. But under the actual test of battle the proportion of killed to wounded was less than in the Civil War where the large lead bullet was used.

	Killed.	Wounded	Ratio.
Civil War.....	59,860	280,040	1 to 46
Spanish-American War.	280	1,581	1 to 56

In concluding the following summary is presented:

Relative to the effect of the jackted bullet—

I. That perforating and penetrating wounds made by the compound bullet are usually aseptic.

II. That in non-fatal wounds it produces small shock and injury to tissues provided no bone or important nerve or vessel is involved.

III. That in bone the bullet usually comminutes to considerable extent and that the fractures are sometimes complicated with considerable destruction of the soft parts about the bone which in the extremities frequently produces permanent impairment of function.

IV. That wounds of exit are frequently smaller and are seldom much larger than the wounds of entrance and are little influenced by the kind of tissue through which the bullet has passed.

V. That the lodgement of small cali-

bre bullets can usually be traced to long range or to ricochet of the ball.

VI. That lodged bullets seldom do immediate harm in the tissues; even shrapnel bullets, which are ordinarily supposed to be more productive of suppuration than jacketed bullets, do not cause inflammatory trouble unless searched for and removed at the field hospital.

VII. That the proportion of killed to wounded in battle has not been increased by the use of the small calibre bullet.

Relative to surgical methods—

I. That aseptic and antiseptic methods have been the greatest factors in reducing post traumatic complications and the mortality of the wounded.

II. That excellent results are obtained by dressing wounds with the first aid packet or other occlusive dressing and by packing lacerated wounds with iodoform gauze and leaving them undisturbed until they can be attended to with aseptic precautions.

III. That bullets which remain in the tissues usually give rise soonor or later to symptoms of discomfort or disability, and that, in consequence, all bullets should be removed, if possible, but the removal should be deferred until aseptic condition are available.

IV. That the Roentgen ray is of the greatest value in locating bullets and determining the conditions of fractures.

V. That under asepsis there should be no hesitancy in employing operative interference in compound fractures where there is irreducible displacement of bone or where the Roentgen ray shows a condition of fragmentation liable to produce impairment of function and that all septic wounds and fractures should be treated by thorough antiseptic methods.

VI. That surgical asepsis is practically impossible on the field or at the field hospital.

VII. That operative interference on the field or in the field hospital should be restricted to operations imperatively demanded to save life or to decrease the probability of death where transportation without operation would be more dangerous than the septic infection liable to occur from immediate operation under unfavorable conditions.

Relative to medico-military methods—

I. That the transportation of the wounded to permanent base hospitals should be in every way facilitated.

II. That the establishment during the late war of numerous fully equipped general hospitals and the speedy transportation of the wounded to, and their treatment at, these hospitals, was of inestimable value in promoting the application of aseptic and antiseptic methods under favorable surroundings and so reducing the mortality and post traumatic complications of the wounded.

MEETING OF MAY 3, 1899.

DR. BUSEY, President, in the Chair.

The Treasurer read his report for April.

Treasurer's Report, April, 1899

Received:		
Dues	$24.00	
Interest	30.00	
Fees	51.00	
		$105.00
Disbursed:		
Rec. Sec'y	$50.00	
Photolithographs	32.00	
Review	29.17	
		$111,17

The president presented "Marriage of the Deaf in America," received from the U. S. Interior Department.

A letter was read from the President of the Chemical Society of this city, asking this society to appoint a committee to confer with a committee of their mem-

bers as to the advisability of holding one or more joint meetings of the two societies. Dr. Bovee moved that the president appoint a committee of three for this purpose. Carried. The Chair appointed, Drs. Bovee, Woodward, and Francis P. Morgan.

A letter was read from Mr. Minter P. Key, requesting that a committee be delegated from this Society, to study, with other scientists and physicians, the subject of longevity, at the World's Fair Exposition at Paris, in 1900.

Dr. Sowers moved that a committee of three be appointed by the president to consider this communication, and report to the Society before the Summer adjournment, with any recommendations they may think proper to make. Carried. The Chair appointed Drs. Sowers, W. W. Johnston, and Kober.

The following specimens, with report of cases, were presented:

Dr. I. S. Stone: "Fibroid Tumor." A new instrument: "The Angiotribe." Discussed by Dr. J. Ford Thomspon and Bovee.

Dr. J. Taber Johnson, "Fibroid Tumor of Uterus."

(Mss. not received.)

Dr. S. S. Adams presented, "Three Cases of Lumbar Puncture." Discussed by Drs. J. Ford Thompson, Foster, Allen and Acker.

Dr. J. S. Stone presented a new instrument, *The Angiotribe*, and exhibited a large uterine myofibroma which he had recently removed by abdominal section, using no intra-abdominal ligatures. The instrument is merely a powerful clamp, with a capacity of perhaps three thousand pounds pressure, and when applied on any ordinary ovarian, or broad ligament pedicle secures perfect hemostasis. The angiotribe appeared to answer quit as well as Skene's clamp and electric cautery, a complicated instrument which obviously can only be used where suitable electric currents are at hand. The reporter first saw the instrument used last February at the Woman's Hospital, New York City. It is called "Tuffier Angiotribe," after the surgeon who invented it, but Doyen and others had been using similar devices, and he (Dr. Stone) could not say who is responsible for a revival of this old method of hemostosis, It may be contended that this method of treating the pedicle is similar to that by the ecraseur, but it was not exactly similar, for with this instrument only a very thin ribbon stump remained which is far more satisfactory than the large rough and lacerated stump of the ecraseur. From two to five minutes compression is quite sufficient, and so far as the reporter's experience went, he had seen no untoward results from it use.

The reporter had used the angiotribe in various operations such as supra vaginal hysterectomy, salpingo-oöphorectorny, etc., and while satisfied with the method is not well satisfied with the instrument, as it is rather heavy and required considerable strength to turn the screw.

DISCUSSION.

Dr. STONE asked whether any present had known of a fibroid changing to a malignant growth.

Dr. J. TABER JOHNSON said that some time ago, assisted by Dr. Adams, he had operated upon a woman fifty years of age, removing a large tumor from the uterus. The operation was not performed until symptoms of sepsis rendered it necessary. Upon microscopic examination, the tumor turned out to be a small spindle-cell sarcoma, which had degenerated from a fibroid.

Dr. J. FORD THOMPSON said that a case of abdominal hysterectomy which

he had presented two weeks ago was of interest in connection with these specimens. He had presented the case because there was several points which he wished to bring out—one of which was the advisability of leaving in situ the ovaries after hysterectomy. In the case referred to, he had removed the uterus, intentionally leaving the ovaries, and one tube. He had done so, following the suggestion of Kelley, who recommends it in young women, as it does away with the unpleasant symptoms of the menopause which follow double ovariotomy. He noticed that in both of the specimens presented, the ovaries were attached. It seemed to him that if there was anything in what he had said, the ovaries should more often be left in situ in these cases of hysterectomy in young women.

As to the angiotribe, it brought up old recollections of the ecraseur, which was formerly used for almost everything, but which is now hardly used at all. The instrument is in the same line as Allingham's crusher for hemorrhoids, and acts in the same way. He could not see how it offered any especial advantage in hysterectomy—it was certainly large and unhandy, and one could get a cleaner, and better wound by using the usual instrument. He thought it could also do harm by the crushing and possible death of the tissues compressed between its jaws. There must be such a line of crushed tissues at least one-eighth of an inch wide left in the wound. If the wound were an open one, as in vaginal hysterectomy, this objection would not hold, and the crushed tissue, even if gangrenous, could escape; but he would hesitate to leave such a mass covered up in the abdominal cavity—it was worse than leaving in the silk ligatures which this instrument was supposed to avoid. Bad results might not always occur, nevertheless, he did not consider such a method good surgery. It might also do damage to neighboring structures—especially the ureter. Even the most skillful surgeons have cut and ligated the ureter, but if it were once crushed by that instrument, it would be gone forever.

Dr. BOVEE said, that he had been impressed by the specimen Dr. Stone had presented. He had examined the case before, and after its removal, and had been struck by the resemblance to a pregnant uterus. As to Dr. Thompson's suggestion that the ovaries be left in situ after hysterectomy in young women, it is now the rule, not to remove them from a woman under forty years of age if they are only moderately diseased. If the ovaries and tubes are removed, menstruation will occur, if any considerable amount of the mucous membrane of the body of the uterus be left. If, however, we remove the uterus down to the cervix, it will usually cease.

As to the angiotribe, we have all found difficulty with the use of silk and other permanent ligature material, and thought they should not be employed. Did not use silk, or silkworm gut in the broad ligament, nor did he think that anyone was justified in using them. He did not, however, agree with Dr. Stone that catgut could not be sterilized. Because infection occurs, we should not jump at the conclusion that the ligature material caused it necessarily; the infection might have arisen from other causes, e. g., from the use of a clamp, from the air of the room, the nurse's hands, the patient's skin, etc. It is always possible to have an infection for which the suture material is in no way to blame; and we cannot justly blame this material, until it is shown by the microscope to have been septic. He had no fault to find in this regard with catgut, or kangaroo tendon.

So far as he could judge, the best instrument of the class to which the angiotribe belonged, was devised by Newman, of Chicago. It depends upon a lever to cause pressure, and not upon a wheel and screw. He could not, however, see any advantage in the use of these instruments over the suture. As to the use of Cleveland's instrument in vaginal hysterectomy, it appeared to him such a large instrument that he hardly saw how the operator could find room for the use of his fingers in performing the operation. Had seen Dr. Skene use his instrument, but did not believe it would supersede the suture.

Dr. STONE said that the most important point about the angiotribe was its power to thoroughly compress the tissues as to permanently seal the inner coat of the blood vessels, and thus stop hæmorrhage, at the same time causing very little slough—a line not over one-fourth of an inch wide, and not thicker than a piece of blotting paper. It left the smallest stump he had ever seen. He did not agree with Dr. Thompson's objection, as we all know the power of the peritoneum to look after injured tissue left in its cavity. We sometimes leave a stump one-half of an inch long, and equally thick, and the peritoneum takes good care of it, and without injury to the individual. He had used the instrument to learn whether it merited the claims of those who had used it, and he believed that it did. He would, however, suggest the use of a lever, instead of the wheel and screw, as the muscular exertion used to turn the screw, combined with the mental and nervous strain, was very fatiguing.

He regretted the loss of two patients during the past year from sepsis which took place under the flap of peritoneum in the pelvis, due to infected sutures. He had also seen cases where silk ligature material had caused sinuses opening externally, abscesses, etc. Catgut also, is often rotten, and disappointing, and the attendants may not prepare it properly. Silk is therefore the best ligature material, but it may give rise to infection. The angiotribe, undoubtedly, was not now a perfect instrument, but he believed that the principle upon which it was made, was one which would be more and more developed and used in the future. It did not act upon the principle of the ecraseur: it did not lacerate the tissues as it passed through—it simply compressed them.

Dr. S. S. ADAMS read a paper,

THREE CASES OF LUMBAR PUNCTURE.

(Not received for publication.)

Dr. FOSTER said he had once performed lumbar puncture, and he agreed with Dr. Adams as to its simplicity. The case upon which he operated was one of serous apoplexy, the patient being in a comatose condition. He was placed upon his side, with chin and knees approximated, the object being to stretch the spinal cord, and draw it away from the posterior portion of the canal. The needle was introduced without difficulty, and 16 cc. of fluid were drawn. The result was negative. The post-mortem examination showed distension of the ventricles, with closure by lymph, of the foramen of Majendie, so that the puncture could not to any extent relieve this distention. The operation did not seem to be very promising in the cases of organic brain disease coming under his observation. Asked Dr Adams whether many favorable results from the operation had been reported. He thought the operation would prove useful for diagnostic purposes.

Dr. ALLEN said he had seen the specimen from the first case mentioned by Dr. Adams, and that the point of puncture was at least one-half of an inch below the termination of the cord. At this point it would have been impossible for the operator to have injured any important structure, except, possibly, the posterior nerve roots, and even in this case, the danger would have been slight. The operation is, however, not without danger, and some observers have reported fatal results. It is undesirable to draw the fluid rapidly; the best authorities agree that it should be allowed to drain slowly away through the canula. The third intervertebral space is preferred by some, the fifth by others. Chipault recommends the space between the last lumbar vertebra and the sacrum, and suggests that after the withdrawal of the fluid, there might be injected through the canula the particular serum indicated in the case, e.g., antistreptococcic serum. This seems to be a useful suggestion, and is worthy of trial in some bad cases.

Dr. ACKER said lumbar puncture was a simple operation if the child were placed in the proper position; but even when properly done, one could not be sure of drawing fluid—he might have a "dry operation" even though the needle

entered the spinal canal. As to the amount of fluid removed in the cases that had come under his observation, Dr. Adams had removed 3 cc., he had drawn 4 cc., and only 4 drops had been removed by Dr. Kinyoun. As to the successful cases which had been reported, one operator in Europe reports eight cases, six of which were entirely relieved by the operation. He had examined the subject of Dr. Adams' second operation, and thought it was a case of tubercular meningitis, as it had all the symptoms of that disease. He did not, in the light of subsequent events, believe that it was a case of tubercular meningitis. The result of the operation in this case was remarkable. On the very next day the patient was more comfortable, and continued to improve steadily until its condition is that now shown. He referred to a patient he had recently operated upon for meningitis at the Children's Hospital. The child was two and a half years of age, colored, male. Numerous rales could be heard over both lungs. Its head become retracted, and lumbar puncture was performed, 4 cc. of fluid being drawn. The child did not improve for several days; but it now recognizes its mother, can put out its tongue when told to do so, and move hands and other portions of the body. He had no doubt that this was a case of tubercular meningitis. One thing was sure, the operation had done no harm, and this being the case, he thought it should be used more frequently. The operation is a valuable aid in diagnosis, as by this means we are enabled to obtain the spinal fluid for bacteriologic examination. As regards tubercular meningitis, however, the germs exist in such small numbers that the result of such an examination is not always reliable.

Dr. J. Ford Thompson said, Furbringer reports 86 cases in which he performed the operation. Some of these were tubercular meningitis: and in some, as much as 110 cc. of fluid were drawn. From his own experience, and that of others, he believed that the operation was a simple one, and not liable to do any injury, but it was as a rule, of little benefit to the patient. It was, however, worthy of trial. He would not hesitate to resort to it in any case where he thought good could be accomplished by it, or for diagnostic purposes. Little could be done in the way of relieving pressure symptoms unless a considerable quantity of fluid was drawn. The removal of three or four cc. amounts to nothing, it is replaced in a few hours. If properly performed, there is no danger connected with the operation, and no likelihood of injuring the cord. If, however, a drainage tube were left in the wound, the case would be different, there would then be danger of infection. Hence, several punctures if needed, would be preferable to the use of the drainage tube. Such punctures are but rarely productive of ill results; even the 4th. ventricle has been entered in this way, and some favorable results have been reported, though they are few in number.

Dr. Adams, in closing said that he had been encouraged by the results of lumbar puncture in his cases, and he should certainly use it in the future, in any severe case of meningitis, either tubercular, or simple, which he might have.

Meeting of May 10, 1899.

Dr. Busey, President, in the Chair.

The President announced the death of Dr. W. W. Godding.

Dr. S. S. Adams moved that a committee of five be appointed to arrange for a Memorial meeting to Dr. Godding. Carried. The Chair appointed Drs. W. W. Johnston, John C. Simpson, Mary Parsons, G. Wythe Cook, and G. N. Acker.

Dr. Lamb presented the following specimens:

The Diverticulum Verum of Meckel.

The specimen consists of a portion of ileum taken from a colored woman, age 18, who died of perforation of bowel in typhoid fever. From the surface oppo-

site the mesenteric attachment, and having a small mesentery of its own arises a funnel-shaped tube which quickly becomes a rounded cord two inches in length, attached at its other end to the umbilicus. There can be no question that this is the remains of the omphalomesenteric or vitelline duct; these diverticula are rarely found while the ordinary diverticula of the intestine are common.

Croupous pneumonia.

The specimen is a portion of lower lobe left lung showing an extreme condition of red and gray hepatisation; the lobe was absolutely solid except where softening had occurred. As he recalled it both the diplococcus and streptococcus were found in this case. From a mulatto man, age 18, who died on the 8th day of the disease. The temperature rose to 104.6°, then fell to 100°, and on the 6th day rose again accompanied by involuntary urination and defecation. The left lung lower lobe was solid, the upper lobe œdematous; the weight of lung 62 ounces (normal weight 20 ounces); right lung œdematous; recent lymph in left pleura and also in pericardium. Pericarditis is common in these severe cases. Lymphoid follicles of spleen enlarged; cloudy swelling of liver and kidneys. One other interesting feature was found, namely, pigmentation of Peyer's patches, which coincided with a former history of typhoid fever.

Cheesy mesenteric gland communicating by fistula with the colon; with subsequent fatal peritonitis.

The specimen consists of the ileo colic region; a fistula ¾ inch long communicates at one end with the colon just beyond the ileo-colic valve, at the other end with a large cheesy mesenteric gland; a second smaller similar gland close by. No other glands affected. Around the affected glands the greater omentum has become massed into a tumor-like mass; subsequently a fatal peritonitis developed. From a mulatto man, age 20, well nourished and muscular. No other lesions. The original trouble would seem necessarily to have been some disease of the corresponding intestine, which, however, had resolved leaving only the two glands affected, these degenerated and very unusually one of them opened into the intestine. The fatal peritonitis was probably due to the colon bacillus.

Myxoma of peritoneum.

Specimen is about one half of a tumor measuring 6 by 4 by 3 inches; consists of trabeculæ and multiple small cysts containing reddish liquid; apparently a myxoma. From a colored woman, age 47. She had been sick about 4 months; was sometime in Columbia Hospital where she was tapped. Eleven days before death was admitted to Freedmen's Hospital where she was twice tapped and bloody fluid removed each time. The post mortem examination showed the body much emaciated; lungs œdematous; brown atrophy of heart; fatty degeneration of large blood vessels; general peritonitis both old and recent. There were quite a number of tumors as described, varying in size from that of an almond to as large as the head of a new born child; scattered throughout the peritoneal cavity and involving the peritoneum, in which they originated or in the subperitoneal tissue.

Primary sarcoma of prostate gland and secondary growths in pelvic and lumbar glands.

The specimen consists of the prostate gland which is enlarged and contains

soft, sharply outlined, somewhat melanotic new growths; and many pelvic and lumbar glands which are also much enlarged, soft and melanotic. From a colored man, age 60, who had been in hospital over 14 months with a variety of symptoms; the tumor mass was rocognised 5 months before death, in the hypogastric and left iliac regions. The post mortem examination showed the body fairly nourished, œdema of lower limbs, scrotum œdema of lungs, some thickening of aortic valve, fatty and calcareous aorta, old peritoneal adhesions, passive congestion of liver, senile atrophy of spleen, small kidneys, the lesions of prostate and lymphatic glands as described and erosion of left side of lower lumbar vertebræ. There were large phleboliths in prostatic plexus. Malignant tumors of the prostate are said to be uncommon.

Croupous pneumonia.

Dr. S. S. ADAMS said, in discussing the specimen that this case was interesting clinically, as well as pathologically. He was at present attending a case of what he would call the migratory form of croupous pneumonia. The patient, a boy of 12 years, was now the fourth week of the disease. The peculiarity in the case was that areas of consolidation appeared successively in different parts of the lungs, the older areas clearing up, as other parts were invaded. In this way the greater part of both lungs had been attacked, the portion excepted being mainly the anterior part. The temperature had fallen between the periods of fresh invasion, once, even to the normal, but it rose as each new area became involved. The patient could indicate by the pain the points of commencing consolidation, pointing out these points with accuracy as they appeared. The patient was now much prostrated, but is able to obtain sufficient air; consolidation remains in the lower part of the right lung.

Dr. I. S. STONE asked Dr. Adams whether his patient expectorates rusty sputum.

Dr. ADAMS replied in the negative. There was as a rule no expectoration in children, they swallowed it. This boy's saliva had been examined microscopically, but no characteristic bacteria had been found. Subcrepitant rales were now present over the affected area. There had been no pleurisy. The case was a typical one of migratory croupous pneumonia.

Myxoma of peritoneum..

Dr. I. S. STONE, speaking upon the specimen asked Dr. Lamb whether the tumor grew directly from the peritoneum only, and whether if might be placed in the class fibroma moluscum.

Primary sarcoma of prostate.

Dr. BEHREND said referring to the specimen that it seemed to him peculiar that a man with such an extensive disease of the prostate should present no symptoms of interference with the flow of urine. He had not noticed any reference to this symptom in Dr. Lamb's description of the case.

Dr. LAMB, in closing the discussion, said in answer to Dr. Stone, that the tumor of the peritoneum had involved no other organs, only the peritoneum and subperitoneal tissue. It was a question from which of these it directly arose. In reply to Dr. Behrend, he said that the patient with sarcoma of the prostate had given no history of interference with the flow of urine.

URIC ACID AS A FACTOR IN THE CAUSATION OF BRONCHITIS AND PLEURISY.

P. S. ROY, M. D.

(See NATIONAL MEDICAL REVIEW.)

Dr. ACKER said that he had seen many cases in which a pleurisy or bronchitis was coexistent with rheumatism or gout, and he thought this was a matter of common clinical observation. It is probable that the inflammation of the mucous membranes is due to the irritation caused by an excess of uric acid

in the body fluids. The best treatment was undoubtedly the salicylates, and one of the iodine preparations, or colchicum. He had obtained good results from these remedies, when the expectorants, and other remedies ordinarily used in a simple bronchitis or pleurisy, had failed.

Dr. I. S. STONE said that he hardly felt competent to discuss this subject, but he would say that several years ago, a very prominent surgeon told him that some years before, he had suffered from a bronchitis, which he formerly thought to be of a tubercular nature. Of late, however, he had come to the conclusion that it was due to an excess of uric acid in his system, as he had recently developed gout, and since the manifestations of that disease, he had suffered much less from diseases of his respiratory tract. It was very probable, as Dr. Roy had said, that such an inflammation of the mucous or serous membranes was not a mere metastasis, but another manifestation of uric acid poisoning. He also believed that some skin diseases were due to the same poison. Within the last five years we have learned the importance of considering the relative amount of uric acid in the urine, in predicting the results of surgical operations, as this substance has a decided effect for better or worse upon the chances of the patient's recovery. Hence, the urine is almost invariably examined for uric acid before an operation.

Dr. J. PRESTON MILLER said that what he would say as to the treatment of these cases, he had gathered from the results of actual clinical observation. He was much interested in the theories as to what the uric acid diathesis is, and its exact nature. We are not able however, to define accurately the condition, but we know its symptoms, and manifestations. We have seen apparently healthy, robust men who are particularly prone to have inflammations of the mucous membranes of the respiratory tract, colds, quinsy, etc. He had in mind cases where the predisposition went by families. Such persons are apt to have cerebral hemorrhages comparatively early in life, between the ages of forty, and fifty. These cases call for the use of the salicylates. As had been stated, the remedies frequently used for these inflammations often fail. Under the administration of the salicylates, however, the pain, swelling, and other symptoms disappear in a marvelous manner. These patients, even on slight exposure, are prone to take "cold," it may be a bronchitis, a pleurisy, or a pneumonia, but the condition is always accompanied by a high fever and pain. As regards the last, he remembered a useful point which he had heard in his early lectures that the mode in which the patient points out his pain is of value in making a diagnosis of the condition present especially as to the location of the lesion. The lecturer had said that if, in locating the pain, the patient put his hand flat upon the chest, the chances were that the trouble was bronchitis; if he placed the fingers together over the point of pain, it was probably pneumonia; and if he touched the chest with one finger, it indicated the sharp, acute pain of pleurisy. To patients of the first class, he gave the salicylates and pushed their administration during the first twenty-four hours, while the stomach is yet in good condition, giving in that time as much as one to one and a half drachms. It acts as a specific and stops the pain. As regards the iodine preparations, he does not use them until the condition becomes subacute, or chronic. A prominent author had said that there were only two specifics in existence—quinine for malaria, and antitoxin for diphtheria, he had not observed that either were as specific in their action as the salicylates in cases of inflammatory action of the uric acid diathesis.

Dr. S. S. ADAMS said he did not think much of the method of diagnosis mentioned by Dr. Miller, it was, to say the least, unscientific. The patient's pain might be due to many intrathoracic conditions, not necessarily to uric acid diathesis, although some might have this trouble. There was, however, much dispute as to the importance of uric acid as

a factor in the causation of these respiratory troubles, as well as rheumatism. As to the administration of the salicylates, they undoubtedly do good in proper cases, but they should always be given with discrimination, otherwise, they might be productive of much harm. Large doses, given frequently, would reduce the patient's temperature, and relieve the pain and other symptoms, but might also paralyze the heart. Even 10 or 15 grains every 3 or 4 hours would produce depressing effects, and he believed that we should be careful in the use of the drug.

Dr. MILLER said that he did not wish to defend himself as to what he had said at all, but Dr. Adams had evidently not understood his statement. He had intended to say that he gave one to one and a half drachms in 24 hours and he never gave this amount more than two or three days. If the patient's pain was not relieved by that time, he administered opium and the condition was not uric acid diathesis, but something else.

Dr. ADAMS asked Dr. Miller whether he gave the salicylates after he had made his diagnosis, or before—in the expectation that the case would turn out to be uric acid diathesis.

Dr. MILLER replied that he gave them after making his diagnosis. In some cases, however, where he knew from previous experience that there was a family predisposition to the disease, he felt justified in giving the salicylates at once.

Dr. KOBER said that he was very glad that Dr. Roy had emphasized the part uric acid plays in the production of bronchitis, and pleurisy. Just such papers as these furnish food for reflection to the bacteriologist and pathologist. The question what constitutes the uric acid diathesis and to what extent it is a factor in the causation of inflammations in various parts of the body, is an important one, and for an answer, we must after all look to the bacteriologist. Recent investigations point to the fact that bacteria play an important part in the production of uric acid in the body. Briefly, the theory is that the intestinal bacteria, while incapable under normal conditions of producing toxins, will under other conditions, such as an excess of animal food and putrefactive changes, evolve toxins, whose ultimate products are uric and lactic acids. This theory is yet in its infancy, but the more the bacteriologist sees and consults clinical data, the more he finds it necessary to go on and study the production of uric acid on the line of this theory. If the source of uric acid is a toxin, we know that this substance cannot be localized but may produce irritant effects in the various tissues of the body. The fact that we do find these effects in almost every part of the body, certainly indicates that we are dealing with a toxin, or chemical substance in the blood, the elimination and prevention of which is of great practical importance.

Dr. ACKER said that in regard to the diagnosis of bronchitis or pleurisy due to the uric acid diathesis, we must make such diagnosis after considering the previous history of the case, hereditary predisposition, and also by exclusion. Urinary analysis frequently is an aid, giving evidence as to the presence of lithæmia in these inflammations. His experience had not been the same as Dr. Miller's in these inflammations of the respiratory tract, in that he had not found high fever, but as a rule a low fever, with little expectoration, and few râles. As regards treatment, the salicylates undoubtedly constitute the best treatment, 15 to 20 grains, every 2 or 3 hours. He thought the dose suggested by Dr. Miller, one to one and a half drachms in 24 hours, insufficient in the majority of cases. In chronic attacks, we must rely upon potassium iodide, hydriodic acid or colchicum.

Dr. BROWN said that he had noticed as a clinical fact that the uric acid diathesis is frequently a legacy left to the patient by his parents, one or both of whom suffered with that affectation; and it is true that the children of parents afflicted with uric acid trouble, are predisposed to that disease. Also, persons who partake of wine and stimulants, and

those who habitually over-eat, especially of meats, and high-livers generally, are particularly liable to this disease. He had also observed that in such persons the serous membranes are particularly prone to inflammation, and this being the case, he thought it not strange that pleurisy was often a result of excess of uric acid in the system, although he had seen few cases of this kind. He had however, seen patients who suffered from severe pain in the chest, and had a temperature of 105°, and who were relieved to a remarkable degree in a day or two under the use of the salicylates. He did not, however, call these cases of true pleurisy. He believed that hereditary tendency played an important part in the origin of the uric acid diathesis.

Dr. Roy, in closing the discussion, said that nearly all who had spoken agreed that uric acid diethesis and rheumatism are synonymous. He, however, did not think so, and the best text-books considered the two affections to be different. He had seen many cases of rheumatism—arthritis—which were not caused by, or coexistent with uric acid diathesis, though he believed uric acid to be one of the most common causes of joint inflammation.

Meeting of May 17th, 1899.

Dr. Busey, president, in the chair.

Dr. S. S. Adams moved that at the end of the meeting, the society adjourn for two weeks. Carried.

The chair called attention to the fact that the publication of the *Index Medicus* ceased with the completion of the current volume in April, 1899.

The chair also called attention to the fact that the president of the Decennial Pharmacopoeal Convention had issued a proclamation calling for the assembling of that Convention in this city, in May, 1900. He requested each body to appoint their delegates of which, this society is entitled to three.

Dr. McCormick moved that the President be authorized to appoint, at his convenience, three delegates to this convention. Carried.

The following Medical Officers of the U. S. Army were recommended for membership in the Society by invitation:

Drs. Geo. E. Bushnell, Wm. B. Davis, Chas. R. Greenleaf, H. R. Greenleaf, W. F. Lippit, Edw. L. Munson.

SOME MEDICO-LEGAL ASPECTS OF RAILROAD INJURIES.

(Abstract.)

By J. H. McCormick, M. D.

The medico-legal aspects of injuries in railroad accidents, and the relation of the physician or surgeon thereto, must be considered from three points of view: the physician; the claimant; the railroad.

The first object is the determination of the nature and degree of the injury sustained, and the probable ultimate effects upon the patient and to this end a most careful, thorough and unbiassed examination must be made of the local injury should there be one, as well as, every organ of the body. Too much stress cannot be laid upon the necessity of this examination in addition to the facts connected with the accident, as well as, the individual and his family history.

In no class of cases should an opinion be more carefully considered, because a snap judgment or hasty conclusion may be torn to shreds by a well-posted attorney, and the surgeon be held to ridicule as a medical expert. The charge is often made that the surgeon forms his opinion to conform to the wishes of the highest bidder, and while we indignantly denounce this slur upon our profession, it is only too true that frequently this allegation is founded upon fact. This is often recognized by the courts, and

experts declare in most positive terms that their opponents opinions are not entitled to credit, and by contradictions without number, cast a stigma upon their profession. Can we then wonder that the public courts and juries often hold expert medical testimony in contempt. A noted jurist once tersely said, in commenting on the value of witnesses, "there are three kinds of witnesses, liars, damned liars and medical experts."

So long as medicine fails to be an exact science, men will honestly differ in their opinions.

It is only fair on the part of the claimant, to take into consideration all circumstances, such as previous health, predispositions, hereditary tendencies and so on, as these latter have frequently a marked influence upon the subsequent course and duration of the effects of an injury, and upon the injured person, who exaggerates his condition, which improves with surprising rapidity after judgment in his favor has been rendered.

It is the invariable rule for the claimant to have an exaggerated idea of the magnitude of his injury and to endeavor to impress this fact upon the attendant, and as the true state is most difficult to discover by examination, they offer the best field for self deception or fraud. Hence it is that all the skill of the surgeon must be brought into play, to determine how much is true and how much is exaggerated, as it has a most direct and potent bearing upon the subsequent settlement of the case.

It seems to be an axiom, that corporations are bodies without souls and that they are the legitimate prey of the public, regardless of justice or equity. No class of corporations are so marked an example of this pseudo-verity as railroads, for the opportunities for defrauding them are very numerous.

No daily newspaper is complete without its record of a railroad accident, with more or less harrowing details, dependant upon its proximity to the scene of the casualty or the prominence of persons in the wreck.

With such public instruction, the impression seems to be prevalent, with the public that with limitless wealth and influence, railroads can bribe courts and juries, lawyers and physicians. While this may be, and doubtless many times is, true of the methods of obtaining legislation, franchises, land grants or other privileges of a civil character, it is the exception so far as adjusting claims for damages for personal injury are concerned.

The number of cases of personal injury settled in the courts is comparatively few, when the total number of accidents are considered, and of this number, many of the claimants are frauds and impostors and the suits are never brought to trial.

The cases thrown into court are:

1st. Those in which liability for damage is disputable.

2nd. Those in which amount of liability for damage is disputable.

(*a.*) Where responsibility on part of railroad is technical.

(*b.*) Where responsibility is admitted.

3. Those in which fraud, deception or malingering is employed.

In the two former divisions, arbitration must be employed.

Where the amount of damage is in question, is based on the technical grounds and where the equity is not conclusive, the amount of damage must be awarded by preponderance of testimony of a technical character also.

Continued in December number.

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Therapeutic Notes.

An Injustice.

Probably no drug has been more unjustly maligned than Erythroxylon Coca. Yet no drug has really rendered more aid to therapeutics, as demonstrated in the many writings by authors, botanists and medical observers during the past century. At the time of the Incas (twelfth century), long before the discovery of Peru by Pizarro (1524), Coca was in extensive use. It rendered the greatest of service as a restorative, a fortifier, a sustainer. It was entirely depended upon to insure resistence to disease, fatigue, hardships or toil. For centuries Coca proved its usefulness and merit; it so has continued, notwithstanding the systematic series of attacks instigated in the sensational press, about three years ago, by malicious persons who had special interests in endeavoring to bring Coca into disrepute, if possible to dissuade its use.

The fast-growing popularity of Coca through the untiring efforts of Mariani, of Paris, who was the first to introduce it in Europe and in America in a uniformly reliable and agreeable form, and his labor and serious work in this direction were appreciated by the medical profession.* His preparation has become a most formidable rival to the many so-called tonics, restoratives and stimulants.

When it was clearly demonstrated that Coca was vastly superior and was being adopted universally by the physician, each manufacturer hastened to add Coca in some form or another to their various mixtures. While this was an admission of the value of Coca, it really injured its reputation, owing to the defective preparations produced. Unsatisfactory, even harmful results induced the profession to reject the many valueless, at times dangerous concoctions. An active campaign was opened against Coca in the medical and daily press. Sensational articles without any basis of fact were instigated, with the dual purpose of inciting the opinion of the physician and the public against the drug, and thus prevent its use.

The manufacturers had no knowledge of the requisite treatment and preparation of this delicate, probably most volatile of plants—in fact, were unable to procure reliable leaves, there being even a vastly greater variation than in tea. Due to aforesaid causes, the manufacturers were either compelled to or voluntarily stopped the use of Coca, thus proving again the old saying, "the survival of the fittest," as, notwithstanding the combined efforts of the many competitors and antagonists, the well-known preparation of Coca by Mariani, of Paris, France, which bears his name, is the only one which has resisted all attacks directed against Coca.

Introduced to the profession more than thirty-five years ago it stands without an equal, and continues to be endorsed and upheld by all who subject it to thorough test. It certainly merits the attention of practitioners who for any of the aforesaid reasons may have not considered Coca in its true light, or who may have become prejudiced.

Mariani's Coca can be conscientiously recommended; its adoption into practice as an adjuvant in treatment of the innumerable cases where an absolutely reliable tonic, effective but mild stimulant is indicated, will render more assistance than any drug or medium known to therapeutics.

Its field of usefulness will gain for Coca in the form of a reliable preparation, as great, or if possible, even a greater reputation in the future than it enjoyed at the time of the Incas.

* Mariani's latest monograph on Coca (English translation), illustrated, cloth bound, 76 pages, sent post-paid, to any physician, on application to Mariani, 52 West 15th Street, New York.

An Application for Acne.

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Glycerin..... 30 "
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M.—*N. Y. Medical Journal.*

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J. S. Moremen, M. D., Louisville, Ky., says often we find a close relationship between the liver and certain diseases, so close in fact that there seems to be a dependence upon the liver to maintain perfect health. Nearly all febrile conditions are associated with hepatic disturbances, especially constipation or a jaundiced condition. This is seen in different forms of malaria, when the bowels are constipated, the digestion poor, the lymphatics engorged, skin yellowish, even true jaundice. In malarial troubles the administration of the

Continued on page 342.

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sulphate of quinine often does not stop the ravages, simply because the alimentary canal is not in the condition to facilitate the absorption of quinine. The stomach and intestinal tract and liver are intimately connected with the nervous and circulatory systems, and one being deranged affects the functions of the other. If there is a deficit of hydrochloric acid in the stomach, often found in malaria, the quinine, especially if administered in capsules, pass through the bowel with the feces without being dissolved. In this condition, if the function of the liver can be stimulated, there is an increase of hydrochloric acid in the stomach and the quinine is absorbed.

Again in portal congestion we have a similar condition, and the function of the liver is off, and biliousness, so-called, is the consequence. Bile is nature's purge, in that it digests or helps digest food which has not been digested in the stomach. It is also a decided laxative, the salts of the bile causing more fluid secretion to be discharged into the alimentary canal, especially the small intestine, and it certainly increases peristalsis.

Often when the physician wants to relieve a deranged liver, especially if functional, a brisk purge is administered and the system, on account of the quick emptying of the alimentary canal, often loses considerable bile, which in reality should be reabsorbed. The drug administered should be a chologogue and a laxative, not a purge. Chionia, prepared by the Peacock Chemical Company from the chionanthus virginica, with the disagreeable properties of the crude drug eliminated, in teaspoonful doses three or four times a day, certainly stimulates the function of the liver, and causes a discharge of bile into the canal, but not in such quantities as to cause purging, but it acts as a laxative, which soon re-establishes an equilibrium between the organs of the digestive apparatus. Those who lead a sedentary life and pay very little attention to the calls of nature, soon begin to suffer with constipation and biliousness in a mild form. This condition is very promptly relieved by the use of Chionia.

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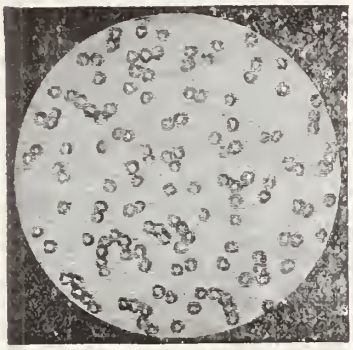

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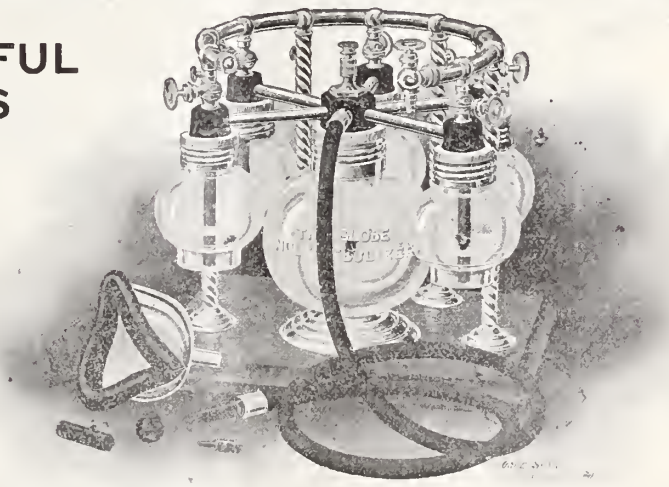

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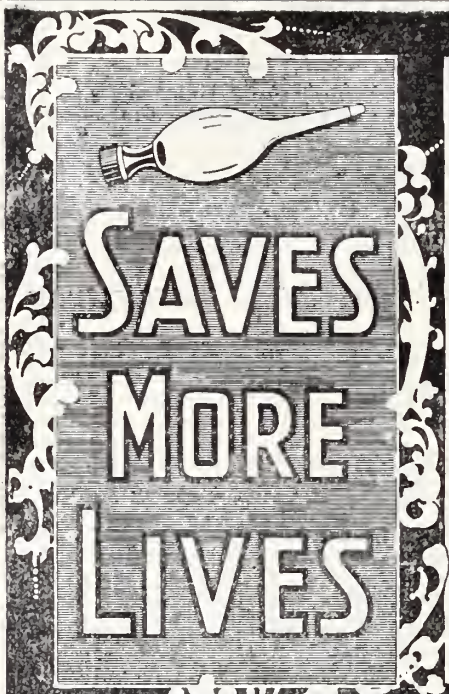

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THE

NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., DECEMBER, 1899. No. 7.

Original Article.

INTESTINAL OBSTRUCTION FROM BILIARY CALCULI.

J. WESLEY BOVÉE, M. D.,
Washington, D. C.

[Abstract of paper read before Misssisippi Valley Medical Association in Chicago, Ill., October 4th, 1899.]

Intestinal obstruction has been observed and written of since the days of Hippocrates, still it retains its mysteries for the disciple of medicine. Its causes are so numerous, its symptoms so varied and its fatality so great that necessity for apologizing for the presentation of this paper is not felt, though but one of its many phases, gall stone obstruction, is to be considered.

Frequency. — Intestinal obstruction from biliary calculi is very uncommon. Brinton found in 500 cases of intestina obstruction but 24 were due to gall stones and Leichtenstern found but 41 in 1,541 cases of bowel occlusion. In the Manchester Royal Infirmary but one case in 50,000 patients treated for all troubles, was found. As it is a condition practically limited to late life its rarity is to be expected.

Varieties.—The obstruction is usually, though not always, due to actual blocking of the intestinal lumen by the stone. A localized peritonitis in the region o the gall bladder may paralyze the bowel in that vicinity, causing obstruction for a short time but usually ending in recovery. Twisting of the small intestine may result from biliary colic and occlusion may be produced from the vigorous contortions of the bowel incident to its containing a gall stone. Again, after the stone has passed peritonitic adhesions may result in complete occlusion. The healing of a large cystico-duodenal fistula may cause such narrowing of the bowel that nothing can pass it.

Large calculi nearly always reach the intestine by the formation of a fistula between the gall bladder and the duodenum. This opening, of necessity, is often of great size—even large enough to admit the insertion of four fingers and its constancy as shown by autopsies and laparotomies for intestinal obstruction from gall stones argues very strongly for this pathological process. Rokitansky and Abercrombie, however, believe the largest stones found in the intestine can pass through the bile ducts. These stones ulcerate also into the peritoneal cavity, the colon, the stomach, the urachus and thence into the bladder—being expelled *par urethram*, through the abdominal wall and, it is supposed, even through the kidney and the lung. The fistula between the gall bladder and the bowel usually connects with the duodenum above the orifice of the common duct.

Location.—Leichtenstern collected 32 cases in which the site of obstruction was 17 times in the lower part of the

ileum, 10 times in the jejunum and in the middle of the ileum five times. A few times the stone has been found wedged in the ileo-cecal valve. The gradual lessening of the bowel diameter from above downward to the valve, together with the relative fixation of the lower part of the ileum by its short mesentery, would seem to explain the comparative frequency near the valve. Two stones obstructing the bowel at different places have been found at autopsies, even in cases operated. At other times the obstruction has been relieved and the trouble been later repeated at nearly the same site by another stone. The rectum has been obstructed by gall stones, probably from pre-existing pathological conditions of the bowel, by deposits on the stone while in the bowel or by the direct passage of stones from the gall-bladder to colon.

Causes.—The question of the ætiology of gall stones and why they are expelled into the bowel is purposely avoided in this paper. Consideration will be given only to the reasons for occlusion resulting from their presence in the bowel. Gall stones of diameters of less than one inch doubtless can pass through the length of the intestine without serious annoyance to the individual, but as the small intestine is usually entered at its largest part by the stone which is urged along through a canal having a decreasing caliber (the ileum 1¼ inches wide, the jejunum 1½ and the duodenum larger) it finally reaches a point beyond which it cannot be forced. Then, too, in late life the muscular tonicity of the bowel is lessened, hence the propulsive power of it is lessened. Adhesions from former peritonitis and other conditions, formerly mentioned in speaking of the varieties, also properly belong under the head of causes. No satisfactory explanation has been given for the successful passage of large gall stones and fatal obstruction from others of about one-fifth the size. Disproportion in the size of the intestinal canal or difference in the general scale of individuals may in a measure account for it where other conditions are absent. Women seem to be afflicted with the trouble four times as often as men.

I have had the good fortune to see one case which resulted favorably without surgical intervention.

This lady, about 44 years of age, had been suddenly attacked during the night, after a hearty meal of green corn and other things, with severe colicky pains in the abdomen, a constant vomiting of biliary matter, a chill and collapse. Morphia in large doses was needed to afford relief. She had had two stools that day but calomel was ordered without result. Three days later she was next seen and as the condition continued and no movement of the bowel had occurred high enemata were resorted to with the effect of bringing away an ovoid cholesterine gall stone weighing 200 grains and having diameters of 1¼ and 1¾ inches and circumferences of 3¾ and 4½ inches. The vomiting ceased immediately and recovery was prompt.

Symptoms.—A history of jaundice, biliary colic or other local phenomena usually antedates obstruction but the symptoms are by no means indicative. They will, however, often approximately locate the site of obstruction. If this be high in the small intestine the vomiting begins earlier and assumes a biliary character; the degree of distension is less and, early in the attack, in favorable cases, a tumor at the seat of

trouble can be felt. Later the tenderness is so marked that examination of the abdomen is extremely unreliable. The distension is much greater if the colon be occluded and the vomiting becomes stercoraceous. Movements of the bowel after the beginning of the attack may prove misleading as the intestine below may be emptied without relief to the real trouble. As to the location of the distention there is little of practical value known.. Fever and high pulse rate indicate structural changes, such as necrosis of the intestinal wall and localized peritonitis. The persistent vomiting of fluid with no absorption of any to replace it causes a marked decrease in the amount of urine eliminated. The degree of decrease seems to be relative to the nearness of the obstruction to the pylorus. The accompanying shock presumably tends in the same direction. The size of the calculus is of interest. Some weighing as much as 493 grains have been successfully passed through the bowel while one weighing but 109 grains caused fatal obstruction. Their shape is usually pyriform or ovoid. Skiagraphy has done but little to aid in the diagnosis of this condition.

Prognosis.—The result of any kind of treatment of acute intestinal obstruction is not pleasing. When due to gall stones the mortality ranges from 44 per cent to 74 per cent. Until it is recognized from the first as a surgical affection and prompt abdominal section done the results will not improve. Resort to early laparotomy ought not to be attended by a mortality higher than ten per cent.

Treatment—Various remedies have been employed. Hippocrates recommended injection of air into the bowel. Tobacco smoke and infusion and different gases have been thus employed. Purgatives are positively harmful. Morphia and belladonna are the two best drugs in gall stone obstruction. Of course electricity has not been omitted. With medical treatment nearly half recover but is that a sufficiently large proportion? In 1672, Barbette recommended laparotomy for acute intestinal obstruction and as abdominal surgery is now practiced its use in acute obstruction of the bowel due to gall stone should give brilliant results. Medical treatment may be used for a short time and, failing, should be superseded by laparotomy, with a careful exploration of the abdominal and pelvic contents. The seat of obstruction being found, the condition of the patient and the degree of mobility of the stone in the bowel will guide the surgeon in the subsequent steps. The plan of Tait—passing a strong needle obliquely through the bowel wall into the stone to break it up, may be tried, the puncture wound being closed with a Lembert stitch. This failing, the stone should, if possible, be pushed higher in the bowel and a longitudinal enterotomy done, with extraction of the stone. Gangrenous bowel, perforations, or localized peritonitis with or without pus, should be treated *secundum artem*. It is always well to look for a second obstruction as this has caused death in some cases. The deaths following laparotomy for this condition are nearly always from shock or sepsis, a strong argument for early operation. It would not seem improbable that early laparotomy in these cases should have a mortality of less than ten per cent.

THE NATIONAL MEDICAL REVIEW,

EDITED BY

GEORGE W. JOHNSTON, M. D., and THOMAS E. MCARDLE, M. D.,

AND

THE MILITARY SURGEON,

A SUPPLEMENT.

OFFICE: 1134 Fifteenth Street, N. W.

WASHINGTON, D. C., DECEMBER, 1899.

Editorial.

The remarks that we made last month upon the subject of substitution, acquirel an added interest in the light of a decision recently rendered by Judge Kohlsaat, in the U. S. Circuit Court of Chicago, whereby a pharmacist, one Edward Otto, doing business in that city, is restrained from substituting other and inferior preparations for Fairchild's Essence of Pepsine, when this is specified, and is taxed the costs in the suit, amounting to about five hundred dollars. The Chicago *Times-Herald* of October 13, 1899, and a copy of a decree of the Court, are our authorities for these statements.

Messrs. Fairchild Brothers & Foster deserve the thanks of the profession, of the laity, and of all honest druggists for the course they have taken in this matter. The expense, time, and trouble of prosecuting a suit of this kind must have been enormous; but the good done thereby is inestimable.

We wish that some co-operative plan could be entered into by the representative manufacturing pharmacists of this country, whereby evidence could be secured on a large scale and prosecutions instituted in every case of substitution. Such a course of action, accompanied and followed by the widest possible publicity, would, we believe, put a stop in a short time, to this venal and nefarious practice.

Everything that makes for the good of the patient should be welcomed by the physician; and hence we are glad to see the question of the standardization of drugs, being agitated in the columns of our best and most progressive medical journals.

The whole study of medicine is a study of cause and effect. Symptoms are the effects of certain well-defined pathological causes. We exhibit remedies to bring about equally definite effects; and the more accurately our remedies are standardized, the more scientific and helpful the practice of medicine becomes.

The most blatant antivivisectionist (in the broad sense of one who objects to animal experimentation) would shudder if he knew how often drugs, of absolutely unknown strength and potency, were given him; and, if he knew the facts, would offer slight objection to their previous surreptitious administration to a fowl or guinea-pig.

Notices and Reviews.

PHYSICIANS' POCKET MANUAL. 1899–1900. Parke, Davis & Co., Detroit,

This handy little volume readily finds a place on the doctor's desk as a book for constant reference. The three hundred and eighty four closely printed pages give some idea of the wonderful products of the laboratories of Parke, Davis & Co., including a complete price list. The manual includes, also, tables of metric equivalents, a table for making solutions, a very complete index, an exhaustive list of botanical synonyms and many little nuggets of information in the form of notes.

Messrs. Parke, Davis & Co , will be glad to furnish the readers of the REVIEW, upon application, with copies of this valuable manual.

THE MEDICAL NEWS VISITING LIST for 1900. Seal Grain Leather, $1.25. Lea Brothers & Co., Philadelphia.

A visiting list is an indispensable convenience for the active practitioner. Prominent among the many books of this nature stands the Medical News Visiting List. It is issued in four styles, adapted to any system of records and any method of keeping professional accounts.

COLLINS AND ROCKWELL'S PHYSIOLOGY. Lea Brothers & Co., Philadelphia. 1899. Price, cloth, $1.50 net.

This is the fourth volume of "Lea's Series of Pocket Text-Books" and furnishes a compendious, trustworthy and modern text-book of physiology. The authors show an appreciation of the difficulties attending the study of this subject and successfully accomplish the task of overcoming them. The information furnished is much fuller, and possibly more accurate on that account, than is found in the smaller works hitherto published; thus in each section, in addition to the purely physiological aspects, pertinent histological considerations are discussed, such as those of the cell in general and of the neuron in the nervous system. Whenever practicable the application of physiological principles to pathological conditions is also dealt with.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Roberts Bartholow, M. D., New York, D. Appleton & Co. 1899.

This is the tenth edition of Dr. Bartholow's very valuable work on Materia Medica and Therapeutics. Twenty-three years ago when he presented his first edition to the profession, he contended that whilst at that time the country was already well provided with able and elaborate works on this subject still he believed he was entitled to a hearing. The popularity that his book has enjoyed during all these years must convince himself, the medical profession and medical students that he did wisely and well in giving out the fruit of his labors. To render this edition still more worthy of the regard of those for whom it is intended, Prof. Bartholow has added accounts, more or less full of the newer remedies, he has inserted a special succinct article on prescription writing, and has made changes at various points to correct errors that were overlooked, and to supply omissions of necessary matter. Writing of the synthetical remedies which organic chemistry has produced, and is producing in increasing numbers, the author says that the whole subject is yet hardly in a state to select out of the mass those that time and further clinical experience must justify. As the next decennial revision of the United States Pharmacopoeia is near at hand, we may look for some authoritative action then, whereby the present state of uncertainty may be finally terminated.

THE SURGICAL DISEASES OF THE GENITO-URINARY TRACT, VENEREAL AND SEXUAL DISEASES. By G. Frank Lydstone, M. D. Extra cloth, $5.00 net. Sheep or half Russia, $5.75 net. The F. A. Davis Co., Philadelphia. 1899.

In view of the cordial manner in which his various cantributions to the subjects embraced in this volume have been received by the profession, Dr. Lydston feels that the publication of a more comprehensive treatise hardly requires either apology or explanation. In a characteristic preface, he announces that he embraces the opportunity afforded him for

airing a few heresies of his own in juxtaposition with as much of the accepted and standard teachings as it is practicable to present in a work chiefly designed for the student and general practitioner rather than the specialist. In the practical part of the work, especially in the diagnosis, pathology and treatment of venereal and surgical diseases of the genito-urinary tract, the author presents the matter in an instructive form. As regards that part concerning diseases affecting sexual physiology it is doubtful if enough scientific data of proven value have been collected to warrant the assertions made by this author. It is to be feared that Dr. Lydston has found place here for the heresies of which he accuses himself.

SCHLEIF'S MATERIA MEDICA AND THERAPEUTICS. A Manual of Materia Medica, Therapeutics, Medical Pharmacy, Prescription Writing and Medical Latin. For the use of Students and Practitioners of Medicine. By William Schleif, Ph. G., M. D. Cloth, $1.50 net. Lea Brothers & Co., Philadelphia and New York.

This volume is intended to afford a condensed yet comprehensive text-book and work of reference on Materia Medica, Therapeutics and a range of cognate subjects which can be grouped with manifest advantage. We commend the book as a whole for it contains in a concise, definite, and assimilable form the essential knowledge required in the most complete college courses on Materia Medica and Therapeutics. We must call attention to some assertions in the book which would bear revision. In speaking of salol, for example, the author says it is a valuable substitute for salicylic acid in acute rheumatism and as an antipyretic, and yet in the next line we find that "It is less certain, less efficient, and more poisonous than salicylic acid." Again, in writing of diseases caused or conveyed by milk, Dr. Schleif says: "Scarlet fever and diphtheria have been conclusively proven to have been thus transmitted; at least in the case of the former a very similar disease exists in the young animal. (Sic.) Typhoid fever has at times been traced to milk." We fancy many more cases of typhoid fever than of the other two diseases have been traced to milk.

PRACTICAL DIAGNOSIS. The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M. D. Fourth edition, enlarged and thoroughly revised. Cloth, $5.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

It is not difficult to understand the popularity which has brought this work to its fourth edition in three years. The author is peculiarly apt in selecting the pith of his subject and presenting it in practical shape. This is evidenced by the plan of the present volume in which the subject is treated precisely as the disease presents itself to the physician, namely: symptoms first. The book thus saves the reader the always more or less difficult process of mental reversal which is manifestly necessary when following the usual method of books on diagnosis which begin with diseases and then detail their symptoms. By dividing his work into two parts, "The Manifestation of Disease in Organs," and "The Manifestation of Disease by Symptoms," the first being regional, the second dealing with general and special symptoms such as fever, headache, vomiting, pain, etc., Dr. Hare secures a maximum convenience, and the ingenious system of cross-indexing consummates the ease and facility of the book for ready reference.

THE PHYSICIAN'S VISITING LIST for 1900. P. Blakiston's Son & Co., Philadelphia.

It seems superfluous to say anything about Lindsay and Blakiston's visiting list. It will soon celebrate the fiftieth anniversary of its first appearance, and the mere fact that it has lived fifty years speaks volumes for its usefulness.

OPERATIVE SURGERY. By Dr. Joseph D. Bryant. Vol. 1. New York. D. Appleton & Co. 1899.

Dr. Bryant is to be congratulated upon the third edition of his valuable work which is fresh from the press. It is believed that the reader of this instructive volume will find sufficient of interest and importance to justify the expenditure of time on the part of himself and the author. The general policy of arrangement of the work is maintained. The operations peculiar to the female sex, and of the eye and ear, are omitted in this, as in the preceding editions, and for similar reasons.

Progress of Medicine.

Endometritis Complicated with Typhoid Fever.

Mrs. J. B., Glenbrook, Conn.; German, age 38; admitted June 2, 1898. Patient's condition on entering the hospital was that of general debility, complained of constant headache, and at times had chills and fever of a mild character. The endometritis was extreme; the uterus being much enlarged, soft, and filled with unhealthy granulation accompanied by profuse leucorrhea.

June 7th, curettement was performed, and after depuration with the reaction of hydrogen peroxide on bovinine, the womb was washed out with thiersch, and packed with idoform gauze. Fresh depuration and iodoform-bovinine packing repeated daily until the 12th; when the packing was discontinued, and the vagina was injected with bovinine pure. This being continued until the 20th, the womb was then found to have returned to its normal size, the leucorrhea had ceased, and the vagina was in a healthy condition. The nurse was instructed to apply a bovinine tampon daily, and this was continued until the condition of these parts was thoroughly cured, July 1, 1898. —*Electric Medical Journal*, Jan. 1, 1899.

Winter Coughs, Grippal Neuroses.

That codeine had an especially beneficial effect in cases of nervous cough, and that it was capable of controlling excessive coughing in various lung affections, was noted before its true physiological action was understood. Later it was clear that its power as a nerve calmative was due, as Bartholow says to its special action on the pneumogastric nerve. Codeine stands apart from the rest of its group, in that it does not arrest secretion in the respiratory and intestinal tract. In marked contrast is it in this respect to morphine. Morphine dries the mucous membrane of the respiratory tract to such a degree that the condition is often made worse by its use; while its effect on the intestinal tract is to produce constipation. There are none of these disagre able effects attending the use of codeine.

The coal-tar products were found to have great power as analgesics and antipyretics long before experiments in the therapeutical laboratory had been conducted to show their exact action. As a result of this laboratory work we know now that some of them are safe, while others are very dangerous. Antikamnia has stood the test of exhaustive trial, both in clinical and regular practice and has been proven free from the usual untoward after-effects which accompany, characterize and distinguish all other preparations of this class. Therefore Antikamnia and Codeine Tablets afford a very desirable mode of exhibiting these two valuable drugs. The proportions are those most frequently indicated in the various neuroses of the larynx as well as the coughs incident to lung affections, grippal conditions, etc.—*The Laryngoscope*,

The Treatment of Lacerated Cervix.

Dr. G. H. Thompson, of St. Louis, (*American Journal of Surgery and Gynecology*, September, 1899) reports a case of negiected lacerated cervix with extensive granulating surfaces around the os uteri, in which the following treatment proved successful: After a vaginal douche and washing out the uterine cavity, he took a strip of aseptic gauze, sprinkled it with europhen powder and introduced it into the uterus, cutting off the end which protruded from the os. The granulating surfaces of the laceration were then dusted with the same powder and the vagina was packed with the same improvised europhen gauze and absorbent cotton. The daily repetition of these dressings healed the laceration in about three weeks; the endometritis lasted a little longer, but got well without the necessity of curettage or a trachelorrhaphy. The author's subsequent experience with europhen convinced him that it was fully equal to iodoform in local therapeutic power, and he now uses it exclusively in his gynecological work.

The Early Diagnosis of General Paralysis of the Insane.

Under this title Schwarz (*St. Petersburger medicinische Wochenschrift*, 1899, No. 4, *Albany Medical Annals*, September) discusses pupillary anomalies with especial reference to their relations to the incipient stages of general paralysis. General paralysis usually presents a row of symptoms which permit an easy diagnosis, but in its incipiency, when the chance for amelioration is afforded, they are so ambiguous as not to be of service in the diagnosis. This is especially true of the mental manifestations. Certain bodily symptoms, however, may give warning, and chief among these are the changes in the pupils, especially the variations in their reaction to light The writer examined fifty early cases of paralysis, and found that in four there were no pupillary reactions; in sixteen there was isolated double-sided immobility to light—that is, neither pupil reacted to light, although both responded to convergence and accommodation; in seventeen cases the reaction was more or less sluggish, so slow that it could only be seen with a magnifying lens, or it was withheld in one eye and present in the other; and in thirteen cases the pupils were normal. The author then reviews the literature of this subject, including observations upon a much larger number of patients. The reflex palsy may be one-sided, but is generally double. Gowers has noted in a case of locomotor ataxy a qualitative reaction, in which the pupil responded promptly to light, but immediately dilated, and to a greater degree than before the contraction; there may be cited as a curiosity the so-called paradoxical reaction, in which the pupil dilates instead of contracts upon the exposure to light. Hippus has also been once observed, but, as this condition is generally physiological, or, when pathological, may stand for neurasthenia, acute meningitis, hemiplegia, multiple sclerosis, and other conditions, its significance must not be misinterpreted.

Reflex pupillary immobility has been found also in locomotor ataxy, senile dementia, alcoholism, focal cerebral lesions, cerebral syphilis, traumatisms of the head, epilepsy, hysteria, and paranoia. The relations of this symptom with locomotor ataxy complicated by mental symptoms is especially interesting. In one such case seen by the writer, the patient was profoundly melancholy; his history showed that in youth, before the acquisition of syphilis, he had suffered from melancholy, and his case record thus shows that the combination of symptoms does not justify the anticipation of general paralysis. As in all the cases the greatest number by far were those of general paralysis; the author is justified in attaching great importance to the pupillary manifestations. He summarizes as follows: 1. In the great majority of cases of insanity in which reflex immobility of the pupil is present (ninety-two per cent.) the diagnosis of general paralysis is justified. 2. In the great majority of cases of general paralysis (seventy per cent.) isolated reflex immobility of the pupils is found. 3. Isolated double-sided pupillary immobility is characteristic of general paralysis. Still in the earliest stages a limitation of the pupillary reaction may have a similar significance as above—(1). 4. Immobility of the pupils combined with failure of the convergence reaction does not negative the diagnosis of general paralysis. 5. Isolated double-sided pupillary immobility may exist for years without the development of general paralysis or locomotor ataxy. 6. It is an early symptom of general paralysis, and has been seen for years before the ensuing general paralysis has developed.—*N. Y. Medical Journal*, 1899, lxx, 534.

Hypophosphites.

The McArthur Hypophosphite Co. appeal entirely to the reason and educated sense of the Physician in their admirable advertisement on page 339. Their Syrup is a standard and reliable preparation. It is not a conglomerate mass of polypharmacy as some others in the market, but embodies the valuable therapeutical properties of the Hypophosphites of Lime and Soda without objectionable ingredients, and is particularly adapted to children.

OF THE DISTRICT OF COLUMBIA.

Continued from November Number.

The third class far outnumbers all the others for the reason that the possibilities are greater, and the temptation to obtain a large sum of money for supposed injuries has been rendered possible by the action of juries, willing to give a verdict against the railroad on general principles.

A case was tried in New York last year, in which the claimant, fell from a car; the testimony of eight disinterested witnesses showed that the woman in jumping from the car, 24 feet from the crossing, fell and cut her head; she claimed the accident was caused by the car being started before she could get off the step. This was the only testimony for the plaintiff as against eight who positively swore that the car was 24 feet from its stopping place; notwithstanding this the jury awarded her $800 of a claim for $10.000. The verdict was set aside by the court as being against the weight of evidence .

The attorney who argued this case, told his client she had no case, but relied upon his ability to sway the jury, who "had it in for the cable road,"

In those cases where the amount of damage claimed is so excessive, and the injury magnified to such an extent as to constitute a fraud, and in those where fraud is intentional, the examiner should ascertain the exact condition of the person, and he should on no account be party to fraud, or let it be thought that his judgment is not reliable.

I have acquired a fair knowledge of human nature and have found that with certain given factors, a common objective, the lines of action will nearly always be the same, the details being but variants, not affecting the general rules, hence cases of fraud and malingering in railroad damage cases have a peculiar interest. It is only fair to say that perhaps I have fallen into the errror of being prejudiced in favor of one side or the other, and have regarded all claimants as frauds until proven genuine, if so it has been done unconsciously but fortunately for the practical results a survey of the subsequent history of these cases has shown our first impressions for the most part to have been correct.

As to the railroad, while it may not be entitled to much sympathy many times, yet it is entitled to justice. In the State of Minnesota alone in one year the courts rendered damages against railroads amounting to $450,000.00. It is thus made a part of the expense of the road, and the public in the end must pay for it. It is because so many attempts at fraud are made that the corporations, in sheer self defense, have had many times to resort to means that under other circumstances would not be justifiable.

Conclusions: The nervous affections resulting from accidents on railroads do not differ essentially from those produced by other causes capable of producing a like degree of impression on the nervous system ; traumatic neurasthenia does not differ from other kinds but is a term, used simply to designate the manner of its production. In all cases where the subjective symptoms are disproportionate to the lesion, care should be exercised in advancing an opinion based upon one examination ; many genuine cases develope neuroses a long time after the injury which are not apparent at the time of the accident.

DISCUSSION.

Dr. C. W. Brown said he had been much interested in the paper as for a

number of years he had experience in this kind of work. His opinion was that railroad injuries were apt to be more severe, and serious in their results, than any other class of injuries which the surgeon is called upon to treat. This is especially true of injuries to the nervous system, which are very common, and the results are often more or less permanent. He had observed that the majority of persons who intend to defraud the railroad companies have "their spines with them"—as injuries of this part of the body are hard to make out, both as to their nature and extent. He believed that in the majority of cases, the physician would do best by his patient by advising settlement with the company as soon as he recovers. As a rule, when this is done, the patient has less trouble, and in the end gets more money than when the case is brought into court. A case in point was that of an engineer on one of the trunk lines, upon whose engine a valve failed to work properly. He was exasperated, and hit the valve with a hammer and broke it off. The steam, escaping under 160 pounds pressure, scalded him and knocked him off the engine, and he died in 48 hours. His widow engaged the services of an able attorney, and prosecuted the railroad company. In spite of the fact that the man was manifestly to blame for the accident, having broken the valve in anger, and investigation having shown that there was no defect or fault in the material of which the valve was made; she obtained judgment for $6,000. Of this, after the expenses of the trial, which lasted two or three years, were paid, the widow received $150.

With regard to excessive claims for trifling injuries, a case in point was that of a sleeper which was derailed and went down an embankment, when the train was going at the rate of 45 miles per hour. One man had his bed made up with his head toward the engine, and he was the only one killed, having suffered a fracture of the base of the skull. The other occupants of the car were badly shaken up and bruised. One of them was an athletic drover, who was carried to the hospital, and later refused to settle with the company, claiming paralysis of the body below the fifth dorsal vertebra, with anæsthesia of the limbs, etc. He did not wince when a pin was stuck into his feet, and legs. Dr. Brown however, believed the man a malingerer, and watched him closely for a week. Finally, the company settled with him, and immediately upon receiving the money, he got up and dressed, and walked half a mile to the railroad station.

Dr. McCormick said, in closing, that he had gathered from Dr. Brown's remarks that he thought the Doctor should act in these cases both as claim-agent, or mediator between the company and claimant, and as physician too. He thought differently however, and did not believe that the physician should undertake to advise the patient as to settlement of his claim, or act in the capacity of a claim-agent in any respect whatever.

Dr. Brown said that Dr. McCormick had misunderstood him. He did not mean that the doctor should be a mediator between the company and claimant,—only so far as the interest of his patient was concerned.

COD LIVER OIL.

By Drs. Thomas E. McArdle and W. H. Wiley.

Three years ago I read a paper before this Society on the therapeutic value of cod liver oil. It was my purpose to impress upon the members the true value of this agent in certain diseases, fearing they might have forgotten this old remedy in the continued search for novelties. During the time which has elapsed since the reading of that paper I have given much thought to the study of this subject, and I have become more convinced than ever that it is one of the

most valuable remedies of the Materia Medica for the treatment of a large number of the so-called wasting diseases of children, and also for those peculiar conditions of adults embraced under the common term, anæmia. In other words, whenever the blood is deficient in the red blood corpuscles, when the body weight is below normal, and when every function seems deranged, we have in cod liver oil a remedy of great value. The potency of the remedy, however, lies in its proper use. One of the principal efforts of my first paper was directed towards proving the necessity of using the whole oil. In order to prove of value, it might as well be understood first as last that the whole oil must be used. Indeed, we prescribe cod liver oil mainly because of the fat it contains. Whilst the so-called active principles or alkaloids may have some therapeutic power, yet I am fully convinced, after having given this subject most careful study for a long time, that the fat in cod liver oil is its chief factor in furthering the purposes of nutrition. We must not lose sight of the fact, however, that the combination which nature has formed so perfectly between this particular fat and its accompanying alkaloids gives a peculiar and ideal value to this oil which no other fat possesses. To separate the so-called active principles from the oil is, in my opinion, to destroy the efficacy of both. It is the whole oil we need. It is the whole oil we must have.

When I had the honor of addressing the Society before on this subject, I contended that we oftentimes made a mistake in our method of prescribing cod liver oil. I said that usually too large a dose was given. Consequently, it was not assimilated and served only to add nausea and indigestion to the other ills already present. I hold that ten or twenty drops three times a day are the largest doses we dare prescribe in many cases. These doses may be gradually increased as the patients continue to improve. Frequently, it is impossible to get an individual to take the plain oil. For this reason and also because of its easier digestion this remedy is usually given in the form of an emulsion. We all know that the making of an emulsion prepares the Oil for digestion; indeed, some say that it is already digested when it is in the form of an emulsion. When placed in the position of deciding as to whether we will write a prescription in detail for a certain amount of cod liver oil to be made into an emulsion or of merely ordering one of the prepared emulsions to be found in the drug stores, I prefer the latter, because of the difficulty in finding pharmacists of sufficient skill to prepare a suitable and satisfactory emulsion. When persons have made emulsions exclusively for years, they acquire a certain skill which only comes from such experience.

But it is absolutely essential that we know what we are prescribing. That is the principal objection to prescribing the preparations offered for sale. We know so little what some of them contain. It is for the purpose of finding out what these preparations really contained that Professor Wiley and I entered upon the study of this subject. Professor Wiley has found that for the most part the claims set forth by the proprietors have been justified by his examinations. The profession as well as the laity are indebted to Dr. Wiley for entering upon this work so heartily and we owe him much for the skill, industry and perseverance with which he has undertaken a thorough study of five or six of the preparations which are best known to us, either

through representatives or through personal experience. He places before us, for reference, analyses of some of the more important preparations of cod liver oil and from these we can select the one to our liking.

DISCUSSION.

Dr. C. E. HAGNER said that he had been brought up on the idea that cod liver oil was the greatest medicine on earth for lung troubles, and wasting diseases. When a student in Philadelphia, becoming run down in health, he was put upon the oil by an eminent practitioner. He took it a while and then concluded that he would rather die than continue its use; he tasted it all the time, it deranged his appetite, and did him no good, but if anything it made him worse. Finally, went home where he rapidly improved under other treatment. Of all ill-tasting and nauseous medicines he thought cod liver oil the worst, and not one patient in a dozen is benefited by it. Fortunately, however, we have an agent which will produce all the good results expected from cod liver oil, without the unpleasant effects of the oil, viz., butter. He made it a point to eat one-fourth of a pound every day, and he advised his patients to do the same. It has accomplished more than cod liver oil ever has or will. One might economize in clothes, and other things, but he should not in the amount of butter eaten.

Dr. LOCHBOEHLER said he had noted especially Dr. McArdle's statement that the oil should be given pure. We know that the fats are emulsified in the process of digestion, but the emulsion formed is not the same as that which we obtain in the bottle of cod liver oil emulsion, and the oil must be redigested in order to be absorbed. The very best emulsions of the market contain not over 50 per cent. and some none at all. It is claimed some preparations are free from the disagreeable effects of cod liver oil, yet to possess all the virtues of the pure oil this is impossible. The fact is that to get the best results, the oil should be taken in its own form. If, however, the pure oil should disagree with the patient, we must give an emulsion. In one case, he had obtained good results from rubbing the oil into the skin of a child, who could not take it internally.

Dr. MOTTER said, he had been ill and run down, and had been put upon Cod Liver Oil with the best results; having thus been cured of a bronchitis of three years' standing. As regards the external use of the oil, he had used it in three cases of malnutrition, with marvelous results.

Dr. HAGNER said that the oil was of great value used externally in the way suggested. He had obtained excellent results by having it rubbed into the skin three times a day, and clothing the child in flannel underwear.

Dr. WOOD said that he had known a number of people who could not use butter because of a marked idiosyncrasy: and in a few cases, even poisonous effects appeared. He knew of one man who was made ill by even a small taste of butter, and others in whom coryza followed its use. He agreed with Dr. McArdle as to the usefulness of cod liver oil, and had rarely found a person who could not take it, if a small enough dose were given.

Dr. BEHREND said that the best variety of the pure oil came from Norway, and formerly, before its true source was generally known, it was supposed to be obtained from trees. Quakers, being particularly upright men, were appointed to supervise its preparation and shipment to this country. There were several varieties of it, but it was all pure, and unpurified. The oil which we now see is "purified" and we do not know what we are using. He had obtained the best results from the old, unpleasant, dark oil. It contains all the principles of the oil, and is therefore most valuable.

Dr. MCARDLE, in closing said most of the disagreeable effects which followed the use of the pure cod liver oil were due to the fact that too large doses are usually administered. He contended that we should begin with small doses, and thus gradually accustom the stomach to its digestion. The doses should

then be increased in size until the patient is taking a tablespoonful or more. With regard to the adulteration of the oil, it was the same with this, as with every other product. He had studied the oil from the fish in Norway, to the finished product, and he had found no difference between the pure oil as taken from the livers, and that found in the shops; there are now no more "principles" or other ingredients extracted from the oil, to purify it, than there were in the times of de John's oil. As to what Dr. Hagner had said, it should be remembered that he had an idiosyncrasy for the oil, just as some persons could not take opium, potassium iodide, and other drugs. Dr. Hagner had the same idiosyncrasy for parsnips.

MEETING OF MAY 31, 1899.

DR. REYBURN, President pro tempore, in the chair.

Dr. Kober read the following report of the committee appointed to consider the practicability of carrying out Mr. M. P. Key's suggestion referring to an assembly in 1900 at the world's fair in Paris, "of all persons who are in good health and more than 100 years of age, in order to give doctors and scientists an opportunity to study longevity."

Your committee appointed to consider the practicability of carrying out Mr. M. P. Key's suggestion contained in his letter of the 17th ultimo, referring to an assembly in 1900 at the World's Fair in Paris "of all persons who are in good health and over 100 years of age, in order to give doctors and scientists an opportunity to study longevity," has performed that duty and deem it inexpedient to endorse such a course for the following reasons:

1st. Because the number of centenarians sufficiently strong to attend such a Congress must be very limited indeed. In 1784, an order was issued by Kian Long, Emperor of China, for assembling before him all the old men in his Empire, yet throughout his extensive dominions, and out of a population estimated about 200,000,000, only 4 persons over 100 years of age, attended.

2nd. Even if the number of centenarians in France and Continental Europe was sufficiently large to initiate a Congress for the study of their life history and physical condition, the hardships incident to travel and the changed environments would, in the opinion of the committee, very seriously affect the scientific value of such a collective investigation.

The committee is of the opinion however, that much valuable information on the subject of longevity might be collected, by preparing a schedule of questions concerning persons over 90 years of age, their family history, residence, occupation, habits of life, in eating, drinking, sleeping, exercise, clothing, character and amount of food; use of alcohol, condiments, tobacco, stimulants; whether brought up in the country or city; general appetite and digestion, state of bowels, condition of teeth; intellect; temperament; character and amount of sickness; preseut physical condition—height, weight and chest measurement; condition of heart, lungs, and arteries; and other points of interest.

Such a collective investigation was conducted by the British Medical Association in 1886, and it is believed might be profitably carried on in connection with the U. S. Census of 1900, with the hope, that the family physician, in the interest of science, will furnish the desired information.

It is also possible, that other nations may be induced to initiate a similar investigation.

If the Society approves of the suggestion herein contained, the committee if so directed, will bring the matter to the attention of the Superintendent of the Census.

Respectfully submitted,
Z. T. SOWERS, M. D.
WILLIAM W. JOHNSTON, M. D.
GEO. M. KOBER, M. D.

On motion of Dr. Chappell, the report of the committee was accepted, and the recommendations of the committee were approved.

Dr. Franzoni read the report of the treasurer for May, which is as follows:

Receipts, $18.00. Disbursements, $3.75.

MEMORIAL MEETING OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA IN HONOR OF DR. WILLIAM WHITNEY GODDING.

WEDNESDAY, JUNE 7, 1899.

Dr. S. C. BUSEY, President, in the Chair.

The President announced that the Society would adjourn *sine die* at the end of this meeting.

Dr. W. W. Johnston read the following memorial prepared by the committee:

The Medical Society of the District of Columbia wishes to place upon record its high appreciation of the life and character of the late Dr. William W. Godding, Superintendent of the Government Hospital for the Insane.

For 23 years Dr. Godding managed the affairs of this institution. During this time it has grown from a capacity of 300 patients in 1877 to that of 1900 patients and 300 employees in 1899. This rapid expansion has been one of the results of the civil war, for it is from the National Homes for disabled volunteer soldiers and sailors that the great influx has come. The growth of the Army and Navy and other branches of the Government service as well as the increasing population of the District of Columbia have made additional demands upon the institution. It was Dr. Godding's part to preside over this expansion, and it was fortunate for St. Elizabeth that so wise a selection had been made. The history of the institution under Dr. Godding's superintendence is one of which the Government, Washington, and the medical profession may well be proud.

The task imposed upon the superintendent from the beginning was an enormous one. For not only did he have the supervision of the patients, with the determination of all the delicate questions as to their admission, retention, and discharge, but he was constantly engaged in the completion of new buildings for the accommodation of the ever increasing number of inmates. In the erection of these buildings he was largely his own architect and superintendent of construction. The present condition of St. Elizabeth with its 32 separate structures, constituting a small town in itself, each building distinct and unlike, yet all admirably fitted for the purposes in view, with every modern device for the comfort and protection of the patients that experience and recent science could suggest, is a monument to the energy and ability of its great superintendent.

The material structures of brick and mortar are but a small part, however, of what remains, after Dr. Godding's death, to give him a lasting name in the history of the institution. The perfect system of administration, the skilled care of the patients, and the far-reaching spirit of philanthropy and charity that everywhere prevails, all bear the impress of Dr. Godding's influence and direction.

In every phase of his life and in every one of the relations he bore to the institution he is equally to be admired, whether as architect, superintendent, treasurer, physician-in-chief, or friend of the unfortunates committed to his care. No one can go through such an institution as St. Elizabeth without coming to a full sense of what the loss of reason means and what suffering it involves. Sorrow, despair, the sense of wrong and injustice, humbled pride, physical pain and a thousand griefs of every shade and form, and all unmitigated by any subjective power of relief, find their place in the minds of the insane, and make their lives a hopeless journey to an inevitable

doom. Imagine the task of one who hears day after day these tales of sorrow and who sees but one picture of woe, where all is in shadow. And yet Dr. Godding lived among such scenes for over 20 years and was always, under all circumstances, the helpful, sympathetic friend of his dependents. No story was too long or too trivial to be denied his attention. With the deepest interest he would listen to the most extravagant statements, to the denial of conditions that plainly existed and to the appeals for help of every sort, and no patient ever left him without being comforted by the tenderness of his sympathy and his promises of help. He thus gained over these unfortunates an influence that he used only for their comfort, but for their cure, and the happy results of treatment in St. Elizabeth are in great part due to the personal mental control of the superintendent.

The scientific progress of the institution and the place it holds today in the estimation of those best fitted to judge, are due to the readiness of Dr. Godding to adopt all the suggestions of modern science and to avail himself of the help of his excellent corps of assistants.

The changes made in the system of treatment during the last 10 years show that he believed the institution was a hospital for the treatment and cure of diseases of the nervous system and not an asylum for the insane. Under this view no case can he considered beyond the hope of benefit and by persistent effort even the incurable may in time be cured.

His relations to this Society were constant during all his residence here, and but a short time before his death he was present at a meeting and engaged in the discussion of a paper. His presence was always felt to be a privilege and he never spoke but to give profit or pleasure to his hearers. His written papers were models of literary composition, and full of the treasures of a rich and varied experience. His fondness for literature and his full reading were shown in the flowers of rhetoric that bloomed even amid the most sterile of scientific pastures. No doubt poetry was to him a solace and a diversion in a life that was burdened with many and weighty responsibilities.

The peculiar simplicity of character that marked Dr. Godding is never found but in association with greatness or perhaps it is only when so associated that it becomes remarkable.

There was in him a large heartedness, an open, ingenuous way of meeting every question that disarmed all antagonism and won all men to him. But of all his characteristics that of devotion to duty was perhaps the one that dominated all others. The "Stern daughter of the Voice of God" called him and from that time he never deserted his post. Through all those years of labor and anxiety he never flagged in his zeal and persistent effort, and there was no change in him except in the putting forth of greater strength to meet increasing demands. Having accepted a trust of great honor and magnitude he let no physical weakness and no allurements divert him from the faithful execution of his task. Loyalty, devotion, high courage were as much his as of any soldier on the field of battle

As time went on the strain of work began to tell upon him and to hasten those progressive and inevitable changes that come with advancing years. But it seemed as though the whisper in his ear only urged him to greater energy.

There was no sign that he dreaded his approaching fate; his only effort seemed to be to hide its coming from those most dear to him. "The sense of death is" said to be "the most in apprehension". If so, then Dr. Godding had no sense of death; for no man ever felt less dread of dissolution than he. As long as strength permitted he was at his daily tasks; even when strength no longer sustained him he made a supreme effort to perform a work of duty and succeded. But this was the last; the end came quickly, without great suffering. The life here and the life to come were separated by a short line only; there was no dying; it was life temporal ending in life eternal.

WILLIAM W. JOHNSTON, M. D.,
JOHN C. SIMPSON, M, D.,
G. WYTHE COOKE, M. D.,
MARY A. PARSONS, M. D.,
G. N. ACKER, M. D.,
Committee.

Address by Dr. John C. Simpson.

We meet tonight to pay a tribute of respect to Doctor William Whitney Godding, one of the most widely-known, and most beloved physicians in the District of Columbia.

It has been my pleasure to know Dr. Godding, intimately, for more than a dozen years. I have seen him under all circumstances; have known him in his official capacity, as Superintendent of the Government Hospital for the Insane; in his domestic life, as husband and father; in his relations with the world at large; and have known him as a friend, meeting on an equal footing, and, to some degree, perhaps, as far as any other man, knowing him, deep down in his heart, beyond where public gaze has ever penetrated. Of him I can testify nothing but good, and I can truly say that to know Doctor Godding intimately, and to possess his friendship, was indeed a great privilege.

Now that he has gone from us, and I am able to look at his life as a whole, as I have known him and learned of him from friends and acquaintances, outside his own family and relatives, I see that it was a life of greatness, based upon firm principles, of honor and honesty, and may well be taken as an example of highest manhood.

Doctor Godding was of English descent, and was born in the town of Winchendon, Massachusetts, May 5, 1831. A month ago, when I chanced to be there, I saw the house in which he began his earthly career. Driving out from the village, a mile, to what is known as the "middle of the town," I saw on the side of a hill, surrounded by green fields, a group of some half-dozen houses, a country church, and an old district school. As I approached the spot, I thought it one of the most beautiful bits of New England country I had seen. The houses were scattered on both sides of the road, all painted white, with green blinds, and, although old in years, yet so well preserved, and freshly painted, that, but for the style of architecture and general quaintness of them all, they might have been built a dozen years ago. It was in one of this small group of houses, really in the country, but considered a part of the busy manufacturing town of Winchendon, that William Whitney Godding was born, sixty-eight years ago. I stopped before it, to see under what environment the world first appeared to our friend, whose body we had, only the day before, borne to its last resting place. There was an atmosphere of purity and a touch of nature about the place that

pleased me. The old-fashioned house, with curious gables and broad piazzas, stood back from the road, with a well-kept old-time garden about it, in which the spring blossoms were just beginning to bloom, along the garden paths ; fruit trees of apple and pear, were scattered through the garden, while the house itself was surrounded by tall maples.

Across the little valley was the churchyard, in which the doctor's ancestors, for three or four generations, are buried. The village church, with old-fashioned spire, stood on the opposite side of the road, a few hundred yards away. Looking off to the north, was the town of Winchendon, with the surrounding hills, and beyond, Monadnock, a mountain peak in New Hampshire, whose head towers above everything else within the range of vision. The place suited the man, who, as a child, knew it as home, and well may it be proud of the son who went forth from its roof, to perform his part in the drama of life.

Doctor Godding's father, Alvah Godding, was a country physician, and from him, undoubtedly, Doctor Godding inherited many of the best traits of his character. The name of Alvah Godding, today, in that old town, represents everything that is dignified, and honorable. I was told by some of the old inhabitants of the place that he was a man of broad culture, great tenderness of heart, and large benevolence. He had great sympathy for those of his patients whose pecuniary circumstances placed them in embarrassing positions, and who feared to apply for medical attendance, on account of an unpaid bill, but the good doctor was ever ready to minister to these, and to the poorest of his patients, as he was to what were considered the "best families," where he might, reasonably, expect his pay to be more certain.

No day was too cold and bleak, no night too stormy and dark, for this God-fearing man to go forth, to alleviate suffering, and, like many other men, of his generation, in our profession, he finally, at the age of seventy-eight years, gave his life to answer a sick call. Strolling through the cemetery, I chanced to come upon his grave, on the headstone of which is inscribed "He who loseth his life, shall find it."

Doctor Godding's mother, was Mary Whitney, a member of an English family of that name, who came from Whitney on the Wye, in 1635, and settled at Watertown, Massachusetts. A woman of intellectual attainments, great energy, and marked executive ability, she was an earnest worker in the church, and an old-fashioned house-keeper, who prided herself upon the excellence of her table, and the perfect order of her household. She would entertain a whole church conference, if need be, attend all church meetings, and keep her household running up to the highest degree of perfection. Of Dr. Godding's mother an old minister once said that "half a dozen men, with her firm convictions and moral courage, would revolutionize a town." She believed in Christ as easily as she trusted her mother, and her soul drank in divine truths, as though it were her natural nutriment. Intelligent and kind-hearted, she was a power for good in the church and in the community in which she lived.

From both his parents Dr. Godding inherited his strong characteristics, and, in them, we find the keynote to the development in him, of so much that was broad and lovable. I am told that he was early recognized as a superior boy.

He manifested marked mental development early in life, and with the best of home influences, though an only child, he was easily led into habits of industry, and conscientious regard for duty. His early education was begun in the district school, above referred to, which he entered at the age of five, and where he remained until his tenth year. Having gotten to an age when he could safely be sent further from home, his father had him admitted to the academy in the village of Winchendon, a mile away, where he remained until his sixteenth year. Having finished the course here he went to Brown University, at Providence, Rhode Island, but, finding that his preparatory education in certain branches had been neglected, he remained only six months, when he left to go to Phillips' Academy, a preparatory school, at Andover, Massachusetts. He remained in this school two years, preparing himself for college. In the year 1850 he entered the Freshmen class at Dartmouth College. He soon became popular with his teachers and classmates, among the latter of whom there are, today, some of our most prominent men in science and politics.

Graduating at Dartmouth in 1854, at the age of twenty-three years, Dr. Godding began reading medicine in his father's office, and, a few months later, attended his first course of lectures at the College of Physicians and Surgeons, in New York City. For some reason he remained there only one year, and, a year later, took his degree of M. D. at the Medical College at Castleton, Vermont.

After graduating he began the practice of medicine with his father at Winchendon, where he remained for a period of eighteen months, at the expiration of which time, he was offered a place as Assistant Physician in the State Hospital for the Insane at Concord, New Hampshire. Here he began his life among the insane, June 1st, 1859, and, to the close of his remarkable career, he devoted all his time and energies, with the exception of a single year, to this great life-work.

Dr. Godding was married December 14th, 1860, to Miss Ellen Rowena Murdock, the daughter of Mr. Elisha Murdock, a manufacturer of woodenware, a leading business man of Winchendon, and one of the most prominent social figures in that section of the State. After his marriage, Doctor Godding returned to the hospital at Concord, with his wife, and continued his work there, for a period of two years longer. He resigned his place to enter private practice, and went to Fitchburg, Massachusetts. At the expiration of a year he was again sought, for a place in a hospital for the insane. There was a vacancy in the staff at St. Elizabeth, and the Superintendent, Doctor Charles H. Nichols, having heard of Doctor Godding, as a young man of some experience, peculiarly fitted for the work, offered him the place of Second Assistant Physician. He came to Washington in September, 1863, and began work in the institution, of which, 14 years later he was to be chosen Superintendent. During the years that he remained with Doctor Nichols, Doctor Godding proved himself to be a man of great energy and industry, and, altogether, painstaking in his work. He remained very closely at the hospital, seldom leaving it to go to the city, or to find recreation outside, except to take long walks in the country, of which he was very fond. He learned the history of St. Elizabeth, from the

beginning, and knew every stone and stump, within its boundaries. He was a great reader of books, in the line of general medicine, and of his specialty, and also of the best literature of the day. He made close study of cases of special interest, and wrote minute histories of many of them. A modest man, in no way attempting to parade his works, or his attainments, before the world, or even before those most closely related to him, yet, the reputation he earned during the seven years following, went out before him, and in April, 1870, he was appointed Superintendent of the State Hospital for the Insane at Taunton, Massachusetts. The work in that institution was pleasing to Doctor Godding. He was in his native State, which he always loved, and to which he was ever loyal. He loved its hills and valleys, its rocks and trees, its flowers and its brooks, and, although he remained only seven years, I think in after life, he looked upon the years spent in Taunton as among the happiest of his whole life. The hospital was not large. He had the entire confidence of the public, the patients and their friends, and the loyal support, at all times, of the board of trustees. He improved and enlarged the institution, and, so far as possible, beautified it, and made it altogether up to the highest standard of that time.

In the year 1877, Doctor Godding returned to St. Elizabeth. The only Superintendent the Government Hospital for the Insane had known, Dr. Nichols, resigned to accept the superintendency of the Bloomingdale Asylum in New York City. Upon his resignation, Doctor Nichols was consulted by the Board of Visitors, and the Secretary of the Interior as to his successor, and he, knowing the good work that Doctor Godding was doing in Massachusetts, recommended him for the place. Doctor Godding returned here September 23, 1877, and never again, until his death, severed his official connection with the institution.

He found the hospital consisting of three buildings for patients—a main building, with receding wings, and two detached lodges for colored insane; one for women, and the other for male patients, the entire number of patients being about seven hundred. The buildings were greatly overcrowded and the number of patients increasing, rapidly. He proceeded to make plans for new buildings, and petitioned Congress for an appropriation for a building for working men. He named the sum required to make the necessary provision, and Congress, generously, cut the amount in two and gave him half, but, with it, he did what could be done to provide for the rapidly increasing number of patients. Each year found the wards of the hospital overcrowded, and each year the doctor sought Congressional aid, for the erection of new buildings. In his official contact with members of Congressional committees, Doctor Godding made many friends, and was looked upon as a man who never asked for what was not necessary, for the best interest of the institution, his endeavors to secure appropriations being, generally, successful. As rapidly as possible, he built new buildings, arranging them in groups, for the better classification of patients. The grounds were improved and beautified, and additional land for farming purposes secured.

With the growing population of the District of Columbia, the increased number of men in our army, and navy, and the ever-encreasing number

of inmates of the national homes, for disabled volunteer soldiers, from all of which sources St. Elizabeth admits the insane, the construction of additional accomodations occupied a large part of Doctor Godding's time and energies, and the hospital, today, one of the largest in the United States, admirably suited, in every way, to its needs, stands as a handsome testimonial of his wisdom and increasing efforts. He hoped to accomplish much more, in the development of the place, and had made plans for important work during the coming year, in the construction of cottages at the lower farm, "Godding Croft;" the construction of a new laundry; the extension of a lodge for colored male patients; the construction of a large sewer; and making fire-proof a number of the wards in the main building. Thus, in addition to the great, and ever-increasing, executive work, in the management of so large an institution, he devoted much time, and labor, to the construction and remodeling of buildings, the improvement of the farm, and the individual care of patients under his charge, numbering, at the time of his death, almost two thousand.

All these duties required long hours of labor, and, during all the years I knew Doctor Godding, he arose early, and worked long into the night. He was ever busy, yet always patient and ready to listen to anybody who sought an interview. His work did not interfere with his devoting a number of hours, of the twenty-four to reading, and kept in touch with all that was going on in the world. He had an intimate knowledge of most of the new books of literature, art, and science. He was a familiar figure at all book stores, and well-known by book-dealers, from whom he was ever ready to make a purchase. He was interested in everything new, and was, essentially, a progressive man. He enjoyed a good novel, or a book on almost any branch of science, was remarkably well versed in biblical history, and could quote hundreds of passages from the Bible. He was a fair Latin and Greek scholar, and, until a few years ago, was often to be found reading some passage from the classics. Of poetry he was especially fond, and was himself a poet of no mean ability, some of his unpublished writings, which I have read, being, indeed, beautiful in sentiment and expression. His style of prose was decidedly poetic. His lectures on mental diseases, delivered before the medical students of Columbian College, which he left unpublished, would constitute a most satisfactory hand-book of mental diseases.

Of his published writings, not in book form, the following comprise, perhaps the most important:

1. "The last Chapter in the Life of Guiteau:" Alienist and Neurologist, October, 1882.

2. "In Memoriam, Wilbur-Walker:" Alienist and Neurologist, July, 1883.

3. "Our Insane Neighbor; His rights and Ours:" American Psychological Journal, 1883.

4. "The Insane; Their Treatment, Commitment, and Detention:" American Psychological Journal, 1884.

5. "Progress in Provision for the Insane, 1844-1884:" American Journal of Insanity, October, 1884.

6. "Rights of the Insane:" American Psychological Journal, April, 1884.

7. "A Vindication of History:" Alienist and Neurologist, January, 1885.

8. "The Recognition of Classes of the Insane, in Asylum Construction:"

Alienist and Neurologist, July, 1885.

9. "A Judicial Advance—The Daily Case;" American Journal of Insanity, October, 1888.

10. "Insanity as a Defence for Crime:" American Journal of Insanity, January, 1888.

11. "A Talk on Brains:" International Record, January 1888.

12. "Sketch of Charles H. Nichols:" American Journal of Insanity, 1889.

13. "The Disposition to be made of Criminal Lunatics:" published by International Medico-Legal Congress, 1889.

14. "Aspects and Outlook of Insanity in America:" American Journal of Insanity, July, 1890.

15. "Review of Francis Tiffany's Life of Dorothea Lynde Dix:" Alienist and Neurologist, January 1892.

16. "The State in the Care of the Insane:" American Journal of Insanity, January 1890.

17. "Development of the Present Hospital for the Insane;" American Journal of Insanity, July 1894.

18. "A New Departure in Medical Jurisprudence:" American Journal of Insanity, October, 1894.

19. "Then and Now; being Pictures from the Past:" American Jonrnal of Insanity, 1896.

20. "In Memoriam—Joseph M. Toner:" National Medical Review, December, 1896.

In addition to his scientific cast of mind Doctor Godding had a great amount of real sentiment. Modest and almost diffident, he was a most lovable man, with a heart so big, and warm, that it embraced, in its sympathies and kindness, everybody, with whom he came in contact. His gentleness was almost womanlike, and, with the art of never saying anything unkind, or offensive, to anyone, is it to be wondered that the number o his friends was limited only by the number of his acquaintances? To people in sorrow and trouble he was ever ready to give assistance. As a counselor, he was farseeing and superior in judgment. As a friend he was ever watchful and true. He had a keen sense of humor, a hearty laugh, and thoroughly enjoyed a good joke. Occupying the place he did for so many years, at the head of a hospital for the insane, he was often approached outside its walls, by people of curious types, with all sorts of theories, schemes and advice. These he would listen to with a patience seldom found in mortal man, and dismiss them in a way that made them feel that they were indeed wise, and their wisdom thoroughly appreciated. He treated all these people in a manner that at once won their enentire confidence, and he seldom made an enemy among all the various types of people whom he met.

Doctor Godding's tenderness of heart extended to dumb brutes and animals of all kinds, and to them all, as to humanity in general, was he ever thoughtful, and considerate. To the people of St. Elizabeth, and to the members of his medical staff, he was a kind father, and considerate ruler, and the sorrowful faces to be seen there, on that seventh of May, when the employees and many of the patients, filed into the room in which his body lay, to take a last look at the face of their beloved Superintendent, bore witness to the warm place, in their hearts, that he had occupied.

Dr. Godding's domestic life was ideal, and I have seldom met a family so devoted, and harmoniously united. The same charm of manner that characterized his relations with the general public, applied, with even greater force, to

his relations to his family. His politeness, and gentleness, to strangers never exceeded that, at all times and under all circumstances, paid to his wife and children, and his example as husband, and father, was, perhaps, as nearly ideal as one can imagine.

The many expressions of sorrow and sympathy, coupled with those of great personal loss, from many of the best people throughout the United States, since his death, testify how much he was beloved by all who knew him. He has gone to his reward, and the world in which he lived is better for having known him.

"If God so wills—I do not know
And yet my heart would have it so—
When dimming eyes, and silent lips
Shall close these earthly comradeship.
I pray that I may wake in bliss
And find my mansion next to his."

Address by Dr. Henry M. Hurd.

In considering what I should say in response to the kind invitation of Dr. Johnston to be present to pay a last tribute to the memory of one whom we all loved and honored, I find myself dominated by a single thought which seems to explain the career of Dr. Godding—the personality of the man. Some men there are whose words seem divorced from their beliefs and lives. They may be eminent in the world of mind but personally they are disappointing. We like them better the less we see of them and are disappointed that the man so inadequately represents the glowing word or the living thought. In the career of Dr. Godding as an alienist, we are impressed by the fact that his personality dominated his beliefs and gave rise to whatever was new and original in them. He possessed cheerfulness, heartiness, charity, large heartedness, and liberty of mind, qualities which impressed all who came in contact with him. You felt instinctively that you had to do with one who knew no guile or self-seeking, but who appreciated it to be his duty to place his powers of mind and heart unreservedly at the disposal of his associates or his fellow men. I remember being impressed with his extreme readiness to help me when 20 years ago I had occasion to write to him with regard to a new building, I had projected for the care of the chronic insane. I had never met him and was probably unknown to him even by name. His reply was detailed, painstaking, and most instructive. He sent to me a ground plan and elevation of his newly erected Relief Building and gave me the wisest and most helpful counsel.

His open-mindedness gave him an early emancipation from the thraldom of early "propositions" which had been laid down by "the fathers of psychiatry" in the United States to govern the erection of small institutions and free him from the tyranny of mere tradition.

He saw that it was essential in the present development of the care of the insane in America to build larger institutions and to enlarge existing institutions on practical lines. This became his task at the Government Hospital for the insane and well did he accomplish the work.

As a hospital manager he was careful, conscientious and methodical. He had a keen interest in his patients and made a careful study of individual cases, seeming to grasp by intuition the peculiarities of each one. He had a ready sympathy with all who came under his care and a patience and charity which seemed inexhaustible. These qualities of his mind rendered him slow to believe pre-

meditated evil of anyone. This I think also was the key to his attitude as an expert witness. His charity was so abounding he could not bring himself to think that acts of seeming depravity were not readily explained on the theory of mental disorder. Hence the feeling on the part of some members of the bar that he believed all criminal acts due to mental defect rather than to criminality or depravity. His reputation among legal men might have been enhanced had he taken a harsher view, but we know that he could not in justice to his own nature have acted otherwise and acted honestly. I have always regretted that one who could make such an analysis as he did of the case of Guiteau was overburdened by the routine work of a large hospital and prevented from giving to the medical profession many similar instructive studies. The artistic side of his nature was evident in all of his mental operations and he saw all the events of life as an idealist. This gave a peculiar charm to his style and a grace and elevation to all that he ever wrote. He lived on a higher plane than many of us and saw life in truer proportions. His view of life is well shown by the following extract from one of the last papers I ever heard him read, entitled "Then and Now Being Pictures from the Past."

"Through all disheartening labors, in disappointments and discouragements, with life disillusioned and disenchanted, I have kept the faith: I have not been 'disobedient to the Heavenly vision': the light of the morning has not faded, and from the hopes that met me on the threshold of my life-work I have not yet parted company. Good, so far, but how about results? With opportunity superadded to dream what has the harvest been? Turn on the X-rays of experience, then tell us how far you can see into the human brain. Is it polarization of cells of the gray mater that perverts thought? In those cerebral centers where sound becomes audible to that which takes cognizance behind the ear, what crossed wires in that circuit's telephone put curses on the lips of prayer? Studying from the embryo you think you have found the first dawnings of thought: go a little farther and tell us of its ending. And when life is over, what is it that has gone away? Have you found a parallax of the infinite? You have carefully mapped out the brain convolutions and measured the depth of gray matter, and it is well but, in so doing, have you comprehended all that we call mind? Or are you too, like your patient, following only phantoms through all these years? The unanswered questions of our youth, unanswered in our age when the night has come, are these the only sheaves we bring?

Full well I know I have more tares than wheat—
Brambles and flowers, dry stalks and withered leaves:
Wherefore I blush and weep as at Thy feet
I kneel down reverently and repeat,
Master, behold my sheaves.

'I know these blossoms clustering heavily
With evening dew upon their folded leaves
Can claim no value or utility—
Therefore shall fragrance and beauty be
The glory of my sheaves.'

'Then, out of all these baffled hopes, these dreams of youth to which age brings no fulfillment, these longings after knowledge—longings that are never attainments here, building above the crumbling arches of our broken lives, shaping even out of these life-failures 'more stately mansions' for the soul, haply we may come to recognize the logical necessity for, and acknowledge

the beauty and the fitness of, being 'clothed upon' with an endless life, wherein to answer these questions of the infinite, when this poor finite knowledge of brain is ended."

In the same article he concludes a tribute to his old friends with these touching words:

"Tell me not that they have perished utterly
the friends
Which I have loved long since and lost awhile."

"Is thought then but cell reaction? The subjects of these sketches, with their abounding personality, are they only names now? Poor delver among the broken shards of funeral urns that life has thrown away, look up, and know that your caput mortuum of ashes does not hold all. It is still the 'unseen' that is the 'eternal,' and the individual intelligences that we knew here, with all their hopes, their unsatisfied longings, and their loves, outlasting time, have passed unharmed over life's 'Great Divide.'"

These extracts bring me to speak of him as a writer. He had a grace and felicity of expression rarely equalled and was able to invest the dryest subject with a charm all his own. I always looked for his annual reports with eagerness and read them most carefully—a tribute I may say but rarely bestowed upon reports of ordinary institutions for the insane. They always abounded in felicities of expression which touched the heart of whatever he considered and gave it a permanent abiding place in the mind of the reader. Take for example his characterization of Guiteau in "Two Hard Cases,"—"If it is depravity alone that we are looking for in Guiteau we can close our research here, for he certainly has it in a confluent form. I go as far as anyone in insisting upon the wickedness of this man, which seems to me to be abundantly proved. We want the facts, whatever they establish, and for the proper psychological study of this case we cannot afford to be put off with a portion of the truth, or anything less than all that can be known. Hence I have felt that they err, at least as psychists, if not as jurists, who having demonstrated the depravity, there close their case. I grant you, if wickedness be the talisman against insanity, we should have no need to proceed farther. But does their daily experience teach those whose lives are passed among the insane that sin and disease go hand in hand, and that inoculation with the one is no protection against the other? No, I do not confound depravity with insanity, though sometimes their union is like that of the Siamese twins: you cannot separate them in the life. Depravity alone falls very far short of as atisfactory explanation of this mental phenomenon of the 19th Century."

On his description of the shooting of Garfield from the same book: "He had not long to wait: a carriage rattled up, bringing the President and with him his Secretary of State. They came in by the ladies' entrance, passing close to Guiteau: their earnest discourse was the latest confirmation to the assassin's 'inspiration' in that supreme moment. There was no thunderbolt in waiting to arrest that hand, when human pity failed; his weapon was out; two shots in quick succession, fired from behind, and the strong man bowed himself, and the culminating failure in the career of that miserable viper was accomplished. A life of generous purpose, of noble asspiration, of grand opportunity, one of the foremost of our time, going out at the hand of him whose continued

existence, speaking only from the human standpoint—that is all from which we have to view him—had from birth been but a reflection on the wisdom of Divine economy."

Permit me another brief extract from the same book in which he speaks of the suicide of C. R. W., the first of his "Two Hard Cases:" "Thus in the night and darkness that life had gone out utterly. If I held him responsible, I confess I have not in my heart to blame him, for what was there left to live for? I have endeavored in submitting this memoir as a commentary on paroles, "to extenuate nothing, nor set down aught to malice." Looking back through a record of frequent trials, and a constant anxiety that worried and aged me more than any other case in my experience, the one bright spot in all that record is the long, solitary journey from Toronto: coming back 500 miles to die, not forgetting his promise to me. Our hero from any standpoint, was full of flaws. Was it disease? Name it moral insanity, say it was depravity, call it what you will, the picture is all in shadow. He had no faith in Christ. I doubt if he looked for any existence beyond this sad one; yet, materialist that he was, to a certain extent he believed in such an abstraction as manhood. He held his plighted word more precious than life; he had not survived his honor."

It is difficult to realize that our noble-hearted and cultivated friend has gone from earth. He had a poet's soul, the charity of a saint, and the heart of a child. He loved poetry, literature, art and music; above all he loved his fellow-men. He served in the Asylum at Concord under the elder Bancroft and afterwards at Washington under Nichols, and then at Taunton in the erection and development of that institution. Called to Washington upon the retirement of Nichols in 1877 and at his suggestion, he completed his life work here. Under his sagacious management the Government Hospital for the Insane grew and developed in every part. He planned new wards and met emergencies in a resourceful and satisfactory manner. He erected the Relief Building, the Home, the Hospital, and wards for epileptics and dangerous patients. He developed a pathological department in which valuable studies have been carried on for many years. He established hospital methods for the care of the sick and feeble and finally he inaugurated a system of hydrotherapeutics which has already produced excellent results and has pointed the way to a more satisfactory treatment of epilepsy and paresis. All of these additions and improvements were effected at a minimum of cost and often with an economy which seemed incredible.

With all his burdens and responsibilities he maintained a sweetness of temper and an unsullied heart which rendered him universally beloved. If he had an enemy I never knew him.

Address by Dr. Francis M. Gunnell.

My acquaintance with Dr. Godding began in 1863, when he came to the Government Hospital for the insane as second assistant physician. He was then a mature man, calm, thoughtful, and well contained—rather reserved, perhaps, or waiting to be sought—always a reading man, and within no narrow limits.

I was at that time partly a resident at the institution where the buildings of the temporary Naval Hospital were established

during the civil war for the benefit of the Potomac Flotilla. When I was transferred to sea service the next year I procured for Dr. Godding the appointment of acting assistant surgeon in the Navy, to relieve me of my naval charge there until the hospital then building in the city could be completed and installed. The wearing of a navy vest-button was the only sign of his naval service in which the good Doctor ever indulged. He left St. Elizabeth's to become the Superintendent of the State Institution at Taunton, Mass., in 1870.

When Dr. Nichols resigned his charge of the Government Hospital in 1877, he was invited by the Secretary of the Interior, Mr. Schurz, I think, to nominate his successor, and he immediately named Dr. Godding as the most worthy. The Doctor was promptly appointed and assumed charge. We who knew him welcomed his return, with his increased interest in this hospital and the enlarged capacity derived from his several years experience in the management at Taunton. Dr. Witmer will tell us what he found upon his arrival here, and of the remarkable growth of this institution under his steady developing power of administration. He became quite an accomplished architect in the selection and planning of the several styles of buildings which he considered fitting for the different classes of patients admitted to the hospital.

Dr. Godding was eminently fitted by character, cultivation and moral development, for the high position he was called to fill in this foremost institution in the country, in scientific, professional and humane aspects, well meriting its designation as a hospital for the treatment of mental diseases—not merely an asylum for the hopelessly insane.

The institution, as he left it, was not only a pride and satisfaction to him, as it is to us who have been associated with him there, but it represented him, his best thought, his best work. He exhausted himself in developing and maintaining it, and he has left no small part of himself in it: and his efforts will not die with him. Those who have labored with him there have been so thoroughly impressed by him, his thoughts and plans and methods, that the impress will continue with the institution so long as any of them remain there. It is a fact of no small significance that the accomplished and devoted workers at St. Elizabeth's continue with her for decades: for no resignation of a medical officer has occurred there during Dr. Godding's administration, except of those promoted to higher duties of superintendent elsewhere. A most eloquent testimonial indeed.

My more intimate relations with Dr. Godding were resumed, when as Surgeon-General of the Navy, I became a member of the Board of Visitors, in 1885. Since then we have been devoted and confidential friends, and I knew him almost as a brother. During these years I have felt an always increasing appreciation of his steady development of intellectual and professional capacity, as well as of his energy and administrative ability. He was a thoroughly rounded and completed man. There was no one-sidedness about him. He ran in no grooves, and had, I believe, few prejudices. Always active and energetic, he was very patient, and with ever ready sympathy. He was indulgent of the fancies of others, which a quiet sense of humor seemed to prevent him from being annoyed by. With his ready mind, his conclusions often seemed to be instinct-

ive, yet the expression of them was ordinarily delayed for judicious consideration. During our many years of association, I cannot recall an instance of difference or disagreement on any subject with the Board of Visitors, whose entire confidence he enjoyed. I can remember but two occasions when he betrayed the least excitement. One, when a restive patient attempted to insult the venerable Dr. Toner, and the Doctor hastened to interfere: and the second when his almost miraculous escape from assassination, three years since, called for a narration of the incident to me. The exhibition of affection for him by the patients of the Hospital was constant and unusual: for, as we know, the insane patient is too prone to associate his physician and guardian with the secret enemies who are planning his destruction. The good Doctor's correspondents, in no small number, were those who treasured his care of them as a precious recollection. Of his rare professional ability and accomplishments it is not necessary that I should speak in this presence. He was thoroughly known to all of you, and was frequently consulted by you.

Dr. Godding was a man of wide reading and large cultivation outside of his profession. Few books of real value escaped his notice. He well appreciated works of fiction too, and was a fine critic of poetry. Indeed, he was himself no unskilled writer of verse, and has frequently contributed graceful lines to the program of Decoration Day at St. Elizabeth's Cemetery. Dr. Godding's written work was large. His style was clear and refined, and often quite eloquent. His tributes to Dr. Welling and Dr. Toner, valued members of our Board of Visitors, were particularly graceful and appreciated. It is much to be regretted that his constant over work prevented him from reducing to printed form many results of his professional thoughts and experience which he had intended to publish.

His pure heart produced the example of his upright life. He was one of those who seemed to deserve less credit for being good because they exhibit no tendency to be tempted to evil. His devotion to duty was a prominent characteristic. At the graduating of the class of the Columbian Medical College a few years ago, Dr. Godding made the address. He took for his motto, "Noblesse Oblige", and he stated then the feeling which controlled him as a physician, that the profession of the healing art was so noble, involved such a sense of duty, that it should compel every earnest follower of the Great Physician to be also noble. Of a naturally religious disposition, he had little concern for dogma and restrictive formulas, but encouraged the largest charity for all. His life has been an illustration of the golden rule. Of his family life I need only say, it was entirely and deservedly happy.

In view of his many qualties of excellence—and no faults occur to me in my study of his life and character—we may truly say, "He was a man, that, take him all in all we may not soon look upon his like again".

Address by Dr. John W. Bayne:

I would be derelict to my own feelings did I not add one sprig of laurel to the wreath which enshrouds the memory of our departed friend.

It was my good fortune to have been upon intimate personal and professional relations with Dr. Godding for very many years—to know him as I knew him,

was to honor him, to revere and to love him. He was a man of giant intellect, well poised mind, and of the highest intellectual and professional attainment. His views upon all nervous diseases and insanity were regarded with the greatest respect and consideration from one end to the other of this great country.

His statement of a case as a medical witness before a jury was always clear, commanding and convincing, and justly carried with it the weight and influence of an unbiased and penetrating mind. Thrice did the lawyer feel armed when he went into the intricacies of a trial involving questions of mental responsibility when he knew he had the support of such testimony as Dr. Godding's. His very presence was magnetic and inspiring, his voice was clear and penetrating, his language was choice and his words were eloquent.

He was a man of the highest sense of honor and scrupulously careful upon all questions of medical ethics, and in all his relations to the profession in Washington I have heard but one opinion expressed—and that was admiration for his ability, and appreciation for his private character. Upon numerous occasions, I have been called upon to perform surgical operations in the institution under his charge, and always met with the highest consideration at his hands. One of his most beautiful traits to my mind was his extreme humility—he was easily approached by all conditions of men. The highest official, and social personages had but words of commendation to speak of him, and those in the humble walks of life have shed tears of sorrow at his departure—feeling as they did that a great and good man had departed this life. Indeed this one consideration of his life—the equal consideration of the high and the low, the absence of formality and superiority, his willingness to listen patiently to the tales of woe that were poured into his ear, and his efforts to alleviate suffering and sorrow—have endeared him to many a home. He was a practical humanitarian—his life and services being devoted to that unhappy class of the community that was committed to his charge. He watched over them tenderly and kindly, and while he was a man of the kindest heart, and the sensibilities of a woman, he was also firm and brave—and woe be to that man who used any violence or harsh language to the insane—he said to them: "You can hit me—but don't dare to lay the weight of your hands on them".

Such, Mr. President, has been the memorial that Dr. Godding has left behind—a beacon light for the future, an example worthy of imitation by us all, and one we can point to with the fingers of pride and say to the coming generations of medical men—"There, mounted on that high pinnacle of fame is a man worthy of your respect, worthy of your love, and worthy of your emulation."

Address by Dr. A. H. Witmer.

From the carefully prepared resolutions of the Board of Visitors of the Government Hospital for the Insane, at a special meeting called in consequence of the death of Dr. Godding, I learn that on taking charge of St. Elizabeth in 1877, he found a collection of six buildings. He designed and erected 22 buildings and added various extensions—the larger new structures are the Relief Building, the Home Building, Howard Hall, for the criminal insane; the Toner Infirmary, the large refectory, the Retreat and Dix buildings, for females; the

Oaks for the epileptic insane, with its large kitchen, etc., the large power house with the electric installation; and, recently, the Allison buildings, the new home for the veterans of the Civil War. He found a company of 765 patients; he left an assembly of 1,967 patients. He found a list of 227 employés; he has left an organization of 540 employés, 7 assistant physicians, and over 2,500 patients and attendants under his benign control. He has added over 500 acres to the domain, establishing at Godding Croft his "village of the simple," his outdoor colony of working patients. In the concluding resolution of this Board of Visitors, composed of men and women of eminent station at the National Capital, we find the following language:

"Dr. Godding was learned, wise, and strong; a man of large cultivation and grasp of mind; earnest and patient; singularly free from bias and hasty judgment; a man of through integrity, conscientious and devoted to duty; he ceased from his labors only to obey the call which has taken him from us.

"No single incident of difference or disagreement occurred between the superintendent and ourselves, during all the years of our association. Courteous and attractive in personal intercourse, he exerted a marked influence in the communities in which he resided."

When I turn from the contemplation of the portraiture which the words of the Board of Visitors bring to my vision, I see, even more clearly, the fulness of delineation which they mean to convey, in my own delightful remembrances of Dr. Godding, covering a period of 22 years of daily intercourse. He comes before me now in all the freshness of his matured manhood so admirably equipped for the chosen work he had set before him. Dr. Godding's was a completely rounded character, in which were united intellectual and moral forces not often found in the same man. He had the simplicity of heart of a child, the gentle tenderness of a woman, and the unyielding firmness of a strong man. Acts, the result of mere impulse or caprice, were certainly foreign to his nature. Practical in all the affairs of the important work committed to his charge, a realist in the conception and discharge of his high duties and responsibilities, Dr. Godding was, for all that, an idealist—he lived in a world of his own mental creation, which produced, when his work was done from day to day, the sweet flowerage of duty fulfilled, the solace of their nightly decline. This beautiful sentiment of our highest humanity pervaded his whole being: and, as some would say, had its origin in the altruistic spirit now dominating all great souls laboring for the betterment of their afflicted fellowmen. I prefer to think of it under another symbol of speech and as taking its rise in the practical elucidation, or expansion, if you please, into the daily routine of life, of these great principles of conduct which the Divine Exemplar has embodied in the beatitudes recorded as part of His revelation to men. Tested by their high standard of living, how surprisingly beautiful does the life of Dr. Godding, now that he has left us, stand out in richness of lustre, which may well attract the thought of keen observers of men.

Then again, when I leave the hard, dry, details of common life, and the drudgery which his vocation among men necessarily entailed, I seem to see in clearer light, the wonderful power enabling him to transform the veriest commonplaces into the sublimest duties.

No routine ever became soulless to him, and the wear and tear of flesh and spirit, which so lamentably exasperate the lives of men of all vocations, never tormented him. A pure soul like his, to use the language of Sainte-Beuve, "lives an invisible life: it is healed by its own balms, it is restored: it begins anew: it has not died out: it goes even to the tomb, and is there immortal." From an intellectual point of view, Dr. Godding was a strong man. The natural powers of his mind were refined with a literary culture which made him a peer even among men of letters who followed literary studies professionally. His pleasantries, his geniality, his spritely fancy, made him—when at leisure—a charming man among men of his own, and other professions. While his broad charity saw always the best in every character with whom he was brought in contact. In this respect he admirably illustrated the verses of Longfellow:

"We see but what we have the gift
Of seeing: what we bring we find."

As I close this brief announcement of the departure of our beloved fellow-member, so worthy of his great name among his distinguished colleagues, there crowd upon me the purest and tenderest recollections of nearly a quarter of a century of happy, delightful association with him, and they shall only pass away when life itself shall be no more.

"White as the gleam of a receding sail,
White as a cloud that floats and fades in air,
White as the whitest lily on a stream
These tender memories are."

MEETING OF OCTOBER 4th, 1899.

DR. S. C. BUSEY, President, in the Chair.

The following were elected to membership:

Thomas Dowling, M. D., Columbian University, 1888.

Robert Scott Lamb, M. D., Howard University, 1898.

Wallace Neff, Medical College of Ohio, 1879.

W. E. Whitson, M. D., Columbian University, 1898.

The Treasurer reported for July, August, and September, 1899, as follows:

Receipts, $22.40.

Disbursements, $170.51.

The Chairman of the Committee upon Public Health presented a preliminary report of the work being done by the committee, this consisting especially of an investigation as to the health of the children attending the public schools of the District of Columbia.

"The present committee was appointed February 1st. 1899, and more than one meeting was held before we could determine upon a subject for investigation and the scope of the work. Indeed we had not definitely determined just what we would do until the summer was upon us, and such was the nature of the subject selected that we had to postpone our investigations until after the opening of the schools in September, for we decided to investigate the health of the public school children.

However, the time intervening, we spent in looking up the subject to find what had been done elsewhere and what methods had been pursued: and as a result, sets of questions were framed designed to ascertain the health of the children, at the beginning, in the middle, and at the end of the present school year, as well as to ascertain the character of the work in school, the food, clothing, home environments, etc., of the pupils. Blanks have been distributed and the teachers are at work upon them. The method of investigation, the questions asked, and the scope of the work required, met the hearty approval of the School Board, and the Superintendent. The Superintendent seemed certain that the teachers, especially with the aid of the health teachers, were competent to do the work and that there would be satisfactory returns. The committe in deciding to make this investigation was influenced by various considerations. There has of late been somewhat of an awakening, following a similar one in some countries in Europe, in regard to the health of school children. Boston and New York have medical supervision of the public school. Chicago this year is investigating the health of the school children From the first report to this Society by the Committee on Public Health, we quote the following: "Every day, 40.000 children between the ages of 6 and 16 years, leave their home and for 6 hours are under the exclusive care of the State, obeying the rules of a central authority. No greater opportunity could be afforded for the study of problems of the highest value to the community, because they deal with the health and well-being of children who are to become citizens and the fathers and mothers of another generation."

There has never been made a proper effort to ascertain the condi ion of health of the public school children of this District. We do not know whether they are more or less healtl y than the children who do not attend these schools: nor whether they improve in physical

condition from year to year or not. If they do not, why? We believe that it is possible for them to do so.

In view of these considerations and many others your committee felt justified in incurring the slight expense of printing the circulars containing the questions—slight in comparison to the useful information we fully expect to obtain and the good that will result to the community. We would have endeavored to obtain your consent to make the investigation and your approval of the debt, but as the Society was not in session and as the circulars had to be distributed at the beginning of the school year this could not be done. [Dr. Chappell here presented for inspection, the blank containing the questions above referred to.]

We would like to state further that inasmuch as the investigation cannot possibly be concluded until after the schools close in June, we will not be ready with our report until some time next fall. we hope, therefore, that the present committee will receive the indulgence of the Society and be allowed to remain constituted as it now is until that time. Meanwhile, another Committee upon Public Health may be appointed next January, if thought advisable, to do other work. We expect, however, to have something to offer in January upon the general health of the District.

The bill for printing is $30.00.

J. W. CHAPPELL, *Chairman.*

Upon motion of Dr. S. S. Adams, the Society voted an appropriation of $30.00, to defray the expenses for printing incurred by the Committee in this investigation.

Upon motion of S. S. Adams, the Society authorized the Corresponding Secretary to invite Mr. G. E. Gordon to present the subject of the Walker-Gordon laboratory before the Society, upon Wednesday evening, Oct. 11.

MEETING OF OCTOBER 11, 1899.

Dr. SOWERS, Vice President, in the Chair.

Upon motion of Dr. Chappell, the chair was authorized to appoint a committee of 76 members, auxiliary to the Committee upon Public Health, to assist in the investigation of the health of the children attending the public schools of the District.

The chair appointed the following:

Drs. Atkinson, Baker, Balloch, Barnes, Barrie, Barton, Battle, Beatty, Brumbaugh, Butler, Carmichael, Chappell, Claytor, G. R. L. Cole, John T. Cole, Crosson, Duffey, Johnson Eliot, Llewellyn Eliot, Ellyson, W. B. French, Glazebrook, Griffith, F. R. Hagner, Hall, Harding, Heinecke, Holden, Hooe, Hunt, Jackson, Wallace Johnson, J. T. Kelley, Koones, D. Olin Leech, Frank Leech, D. G. Lewis, Luce, McKimmie, Louis Mackall, jr., Magee, Marbury, Mason, Mayfield, Medford, Middleton, M. E. Miller, E. L. Morgan, F. P. Morgan, Morse, Motter, Nevitt, Ramsbury, Reisinger, W. L. Robins, Roman, Ruffin, Shands, Sothoron, Sprigg, Stavely, St. Clair, C. G. Stone, Stoutenburgh, A. R. Stuart, James Stuart, J. D. Thomas, H. P. P. Thompson, Tompkins, Tubman, Tucker, Vale, Vincent, S. E. Watkins, Wellington, Wells, and Wood.

Winter Colds

and all CATARRHAL CONDITIONS of the NASO-PHARYNX, whether acute or chronic, are speedily relieved and permanently cured by the use of FIRNOL COMP.

FIRNOL COMP. is a bland and oily compound which contains benzo-boro-phenic acid combined with the medicinal properties of pine, cubebs, thyme, eucalyptus and mint—all of which are held in solution by a Chemically Pure oil of petroleum.

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Therapeutic Notes.

Winter Colds.

A well-known laryngologist of this city writes us as follows: "The greatest difficulty that the physician has to encounter in the treatment of winter colds, is to find something that will act quickly enough to soon relieve and satisfy his patient. Every one with a cold wishes to be immediately cured of the local and constitutional distress which are so marked and, in simple colds, out of all proportion to the severity of the pathological process. At one time, cocaine was unsuspectingly used for local applications, but we know better now, and every conscientious man shudders when he thinks of the evils that have resulted from the indiscriminate employment of this drug.

"In winter colds, it is my own practice to recommend that the patient at once take a hot mustard foot bath and be well wrapped up in bed with a hot water bag at the feet. Then a glass of very hot lemonade, with a little flaxseed added to it, is given, and this is followed by the administration of small doses of phenacetine, quinine, caffein and perhaps a little hyocyamus, frequently repeated. Next the upper air passages should be frequently and thoroughly sprayed with Firnol Comp. This remedy may be relied upon to at once relieve the feeling of fulness, tenseness and the other morbid and distressing head and throat symptoms. A sensation of relief and well being immediately follows its employment, and as it contains no cocaine nor opium in any form (a fact of which I have personally convinced myself) there is no objection to its being repeated as often as the patient desires.

"By the employment of the means herein suggested, a cold which threatens to cause much discomfort and keep one for some time from his usual vocation, is at once aborted, and with the precaution of wearing a little additional clothing the next day, the patient may return to his work."

Rheumatic Complications.

"The following suggestions will be of value at this season. The pains of acute influenza are something indescribable, especially when associated with high temperature. To relieve these with some preparation of opium is only to increase the cerebral congestion and aggravate the extreme prostration. Sharp, darting pains are no more severe than are the dull, heavy and persistent pains in the muscles and bones which so often obtain in this disease. Clinical reports verify the value of Antikamnia in controlling the neuralgic and muscular pains, as well as the fever. In fact, Antikamnia may now be called the *sine qua non* in the treatment of this disease and its troublesome sequelæ.

"It seems hardly necessary to indicate the conditions, when the use of two such well-known drugs as 'antikamnia and quinine' will be serviceable, nor the advisability of always exhibiting 'antikamnia and codeine' in the treatment of the accompanying neurosis of the larynx, the irritable cough and bronchial affections. Relapses appear to be very common, and when they occur the manifestations are of a more severe nature than in the initial attack. Here the complications of a rheumatic type are commonly met and 'antikamnia and salol' will be found beneficial. Antikamnia may be obtained pure, also in combination with the above drugs in tablet form.

"Tablets mark the most approved form of medication, especially as they insure accuracy of dosage and protection against substitution. To secure celerity of effect, always instruct that tablets be crushed before taking."—*Medical Reprints.*

Improved Lotio Alba for Acne, etc.

R. Potass. sulphidi.
Zinci sulphatis, ää 1 drachm,
Aquæ destillat.,
Aquæ camphoræ, ää 1 ounce,
Aquæ rosæ, 2 ounces.
M. S. Shake and apply.—*Sherwell.*

Scabies.

R. Sulphur. loti, 1 ounce.
S. Apply in the dry state to the whole surface twice a day and sprinkle a teaspoonful between the sheets at night.—*Sherwell.* —*Medical Record.*

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One of the first effects produced by the use of our CHEMICALLY PURE Hypophosphites is a general increase of nervous energy, with a feeling of ease and comfort.

The second effect is an increase of appetite; digestion is improved, and the bowels become regular in their action, the quantity and color of the blood are increased, respiration is controlled, a better expansion of the chest is observed, cough improves, easy expectoration is produced, night perspiration diminishes, the face becomes fuller, the lips red, the nails and hair grow, and in children the teeth, showing the importance of the Hypophosphites on the organ of nutrition.

☞Physicians when prescribing will please write thus:

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As it is made *only for physicians* there are no printed wrappers or advertisements about the bottle.

Our pamphlet on the **CURABILITY AND TREATMENT OF CONSUMPTION** sent free to physicians upon application.

We will send one bottle of McArthur's Syrup to any physician, without charge, who will send us forty five cents in stamps to cover express charges or mail sample bottle free upon request.

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or	Nitroglycerin	$\frac{1}{50}$ gr.
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"The Blood is the Life,"
And Where Nature fails to make Good Blood,
WE CAN INTRODUCE IT.

BOVININE is Bovine Blood Unaltered from the Arteries of the Bullock;
The Universal Auxiliary of Modern Medicine and Surgery,
and the TRUE "ANTITOXIN" of Healthy Nature.

In the more enlightened progress of Modern Medicine, "Blood-letting" has given place to Blood-*getting*.

Aye! Get Good Blood—but How? Not by the Alimentary Process. It has already failed to do its work (else the patient would not be sick); and in acute disease must not even be allowed to do the work it can. Stimulate as you will, the whole sum of the patient's alimentary power when fully forced into play, is unable to keep up the nourishing and supporting contents of the blood. There is absolutely but one thing to do; and, thank God, that can be done, usually with success, as ten-thousand-fold experience has proved. That one thing is this: where Nature fails to PRODUCE good and sufficient Blood, WE CAN INTRODUCE IT from the arteries of the sturdy bullock, by the medium of BOVININE.

The vital activity of this living blood conserve rests on no man's assertion: it speaks for itself, to every properly equipped physician who will test its properties microscopically, physically, or therapeutically.

TRY IT IN PRACTICE.

TRY it in ***Anæmia***, measuring the increase of red cells and hæmaglobin in the blood as you proceed, together with the improving strength and functions of your patient.

Try it in ***Consumption***, with the same tests from week to week.

Try it in ***Dyspepsia*** or Malnutrition of young or old, and watch the recuperation of the paralysed alimentary powers.

Try it in ***Intestinal*** or gastric irritation, inflammation, or ulceration, that inhibits food itself, and witness the nourishing, supporting and healing work done entirely by absorption, without the slightest functional labor or irritation; even in the most delicate and critical conditions, such as Typhoid Fever and other dangerous gastro-intestinal diseases, Cholera Infantum, Marasmus, Diarrhœa, Dysentery, etc.

Try it per rectum, when the stomach is entirely unavailable or inadequate.

Try it by ***subcutaneous*** injection, when collapse calls for instantaneous blood supply—so much better than blood-*dilution!*

Try it on ***Chronic Ulceration***, in connection with your antiseptic and stimulating treatment (which affords no nourishment) and prove the certainty and power of topical blood nutrition, abolishing pus, stench, and PAIN, and healing with magical rapidity and *finality*.

Try it in ***Chronic Catarrhal*** Diseases; spraying it on the diseased surfaces, with immediate addition of peroxide of hydrogen; wash off instantly the decomposed exudation, scabs and dead tissue with antiseptic solution (Thiersch's); and then see how the mucous membrane stripped open and clean, will absorb nutrition, vitality and health from intermediate applications of pure bovinine.

Try it on the ***Diphtheritic Membrane*** itself, by the same process; so keeping the parts clean and unobstructed, washing away the poison, and meanwhile sustaining the strength independently of the impaired alimentary process and of exhaustive stimulants.

Try it on ***anything***, except plethora or unreduced inflammation; but first take time to regulate the secretions and functions.

Try it on the ***patient*** tentatively at first, to see how much and how often, and in what medium, it will prove most acceptable—in water, milk, coffee, wine, grape, lemon or lime juice, broth, etc. A few cases may even have to begin by drops in crushed ice.

A New Hand-book of Hæmatherapy for 1898, epitomizing the clinical experience of the previous three or four years, from the extensive reports of Hospital and private practice. To be obtained of

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Indications: Gout and all of those diseases arising from a gouty condition of the system, rheumatism and all of those diseases arising from a general rheumatic condition, chronic constipation, hepatic torpor and obesity. In all cases where there is a pronounced leaning to corpulency, it reduces to a minimum the always present tendency to apoplexy. In malaria because of its wonderful action on the liver, increasing twofold the power of quinine.

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Accidental Wounds of the Female Bladder.

By Frederick Holme Wiggin, M. D., New York City. Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899. (Abstract from the *Journal of the American Medical Association, of September 9, 1899.*)

Accidental opening of the bladder has, for many years, been considered one of the most serious accidents that could occur in the course of the complicated work which gynecic surgeons are often called on to perform. The following case is offered in illustration of this type of injury:

M. H., unmarried, æt. 41, was admitted to the City Hospital, Blackwell's Island, N. Y., Sept. 30, 1898, suffering from a large myoma, which sprung from the anterior uterine wall and extended above the umbilicus. On Oct. 3, the abdomen was opened, and the tumor, which weighed seventeen pounds, was drawn through an incision six inches in length, freed from its attachments and removed, together with the body of the uterus amputated near the internal os As hemorrhage was profuse it became necessary to remove the mass very rapidly, to accomplish which the anterior attachment of the tumor was clamped and cut, when it was discovered, from the escape of urine, that the bladder had been opened near the fundus.

The general cavity had previously been shut off with gauze pads and thoroughly irrigated, followed by the use of Hydrozone in half strength, and this, in turn, by saline solution. The gauze pads were now changed, and the opening in the bladder, four inches in length, was closed by means of two layers of chromicized catgut sutures. The wound was then disinfected, and there being a large peritoneal flap, it was attached to the bladder and made to cover the line of sutures, thus making the bladder-wound extra peritoneal. After further washing out of the abdominal cavity with Hydrozone and the saline solution the external wound was closed, without drainage, and the usual dressings applied. The patient being feeble it was not thought advisable to make a vesico vaginal fistula to drain the bladder, but, instead, a self-retaining catheter was introduced. At the end of ten days, however, tumefaction occurred over the lower angle of the abdominal wound, and, on opening it urine began to escape. A vesico vaginal fistula was now made in order to afford adequate drainage. The sinus in the abdominal wall was curetted and, after being thoroughly disinfected with Hydrozone, its walls were sutured. Soon afterward, the sinus having closed, the sutures which kept open the vesico vaginal fistula were removed, and the latter closed quickly without any further operative interference.

Percival (in *British Medical Journal*, 1897, Vol. 1, p. 1282) reports a case of ruptured bladder on which he had operated. It was closed by means of a double wall of Lembert silk sutures. The wound in the abdominal wall was closed, after the peritoneal cavity had been flushed out with boric acid solution and a large quantity of clots and urinous fluids had been removed. For a few days the patient did well, and then died from peritonitis. But the necropsy proved that the bladder-wound had completely healed. It is the writer's opinion that had saline solution and Hydrozone been used, instead of boric acid, and the abdominal wound been closed leaving saline solution in the peritoneal cavity the patient would probably have recovered.

Dietetic Notes.

Realizing that in many of the diseases in which Lithiated Hydrangea has been found to possess great therapeutic value, it is of the highest importance that suitable diet be employed, the Lambert Pharmacal Company have had prepared *Dietetic Notes*, suggesting the articles of food to be allowed or prohibited in several of these diseases. A neatly bound book of these Dietetic Notes, each note perforated for the convenience of physicians in detaching and distributing to their patients, will be sent free of cost, by addressing Lambert Pharmacal Co., St. Louis, Mo.

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We believe the profession will at once appreciate the uniqueness and usefulness of this combination.

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EACH TABLET CONTAINS:

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Cascarin,	gr. ½	Podophyllin,	gr. 1-32

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In catarrhal affections of the various mucous membranes, particularly of the respiratory tract, there exists not only a relaxed atonic condition of these structures but an underlying constitutional state of malnutrition. All authorities agree that in order to eradicate the local pathologic conditions, treatment by appropriate systemic remedies is indispensable; the patient's nutrition must be fostered and restored so that a degree of constitutional vigor is attained which antagonizes the catarrhal processes. Gray's Glycerine Tonic Comp. is the remedy par excellence in these cases because it has a two-fold action. Primarily and chiefly it overcomes malnutrition; it reestablishes normal nutrition by eradicating the ever present atonic condition of the digestive organs, thus assuring the maintenance of normal digestion and assimilation of food; restoration of tone and nervous force to the entire system, and incidentally to the mucous membrane, is a natural sequence. Gray's Glycerine Tonic Comp. has, moreover, a direct local antiphlogistic and tonic influence upon the disordered circulation of the mucous membranes; it relieves engorgement and restores tone to the relaxed atonic blood vessels. This remedy will prove effective in obstinate and recurrent catarrhal affections of the respiratory and gastro-intestinal tracts which have resisted all other treatment. The Purdue Frederick Co., sole proprietors, No. 15 Murray Street, New York.

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What is the Secret of Cure of an Ulcer of the Leg.

Chipault (*Centralb. fur. Chir.*, Oct. 7, 1899,) lays stress on the frequent change of the dressing and bandage in the treatment of ulcerations of the leg. As granulations rapidly accustom themselves to a stimulating medicinal substance, it is, therefore, necessary to change the application every few days. He attributes the success which some men have in the cure of these ulcers to the fact that in their practice they follow out these principles.—*Medical News*, N. Y., 1899, lxxv, 799.

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Some Points Connected With Sleep, Sleeplessness, and Hypnotics.

Bradbury, of Cambridge, England, in this year's Croonian lectures devoted his attention to a consideration of hypnotics, and in his closing lecture he dismisses the general theory of his subject and passes on to the special therapeutics of insomnia, which may be divided into non-medicinal and medicinal measures. The first of these, as it is more or less common to the treatment of all insomnias, will be dealt with first. In all cases, where practicable, the bedroom ought to be in a quiet part of the house, well ventilated, and of moderate temperature. Light should be easily excluded and the apartment scantily furnished. The bed should vary according to the custom of the individual—for young and middle-aged adults a firm mattress is the best, but for the old a softer bedding may be necessary. The covering should be light and warm, but in the use of pillows no general recommendation can be made. Some people sleep better with the head raised, others with the head on a level with the body. In heart disease it will be found necessary to raise the head, but as a rule this arrangement may be left to the choice of the individual. For broad-shouldered people, Whitla recommends the wedge-shaped pillows used by the Germans. Some invalids find much refreshment from the use of two beds—one for the day and the other for the night. In individual cases various means must be resorted to for the purpose of inducing sleep, and often simple ones suffice. Thus some people read themselves to sleep, some people count, other people, like Southey, think of some monotonous discourse. One of Dr. Bradbury's patients used to hang his feet out of bed for some time and then put them in again. Walking about naked or taking a cold or tepid bath is often useful. Massage, especially of the abdomen, the thighs, and the legs, as in Dr. Eccles's method of treating insomnia, is sometimes advantageous. This method is believed to produce temporary anemia of the brain by causing a determination of blood to the manipulated parts, and it may be further aided by a hot compress to the abdomen. In the case of cold feet rubbing them vigorously, or the use of a hot bottle or a foot-bath with mustard in it, is beneficial; or, again, a hot sitz bath may be used. Attention should also be given to the condition of the stomach. As a rule a light supper is the best, and for many, and especially those who awake in the middle of the night, a little hot milk or meat juice containing a small amount of alcohol is helpful. The evacuations should also be attended to and the bladder especially be relieved.

Sleeplessness from overwork, and especially literary work, requires mental rest and change of air and scene. Temporary exposure to the cool air of the bedroom, or the wet pack or a bath, is often of use, and so is a glass of whiskey and water at bedtime, especially in those unaccustomed to the use of alcohol; but if the insomnia continue it is necessary to give a mild hypnotic, such as 20 grains of sulphonal or 30 or 40 grains of bromide of potassium, to break the habit of sleeplessness. Capsules containing 30 minims of turpentine given at bedtime are sometimes beneficial in the insomnia of overwork and worry. The drug acts as a stimulant and derivative and is stated to be most successful in plethoric cases. No beverages containing caffeine should be taken after breakfast.

In nervous and hysterical women, and especially in women at the menopause, the bromides are very useful. Dr. Bradbury has long been in the habit of giving a mixture of bromide—either of potassium, sodium, or ammonium—tincture of sumbul, and tincture of hops, in camphor water, at the climacteric: and it has helped to remove the insomnia as well as the mental depression and flushing heats so common at this period.

The sleeplessness of the insane requires careful management. In the early stages of acute mania the bromides, chloral, hyoscine hydrobromate, and other sedatives are useful, but a hot

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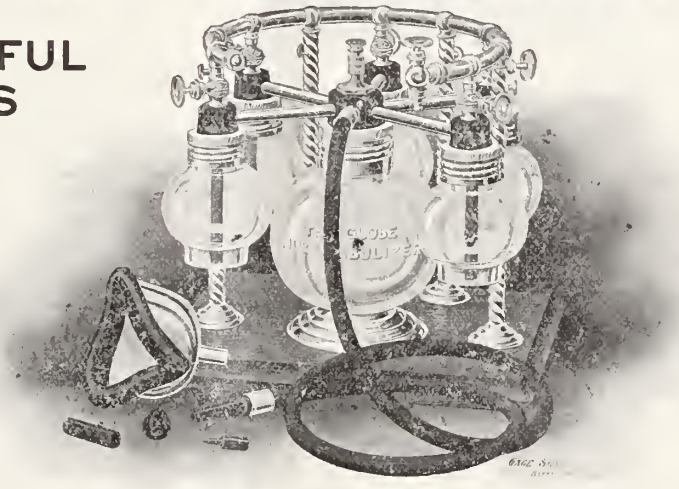

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Some Points Connected With Sleep, Sleeplessness, and Hypnotics.

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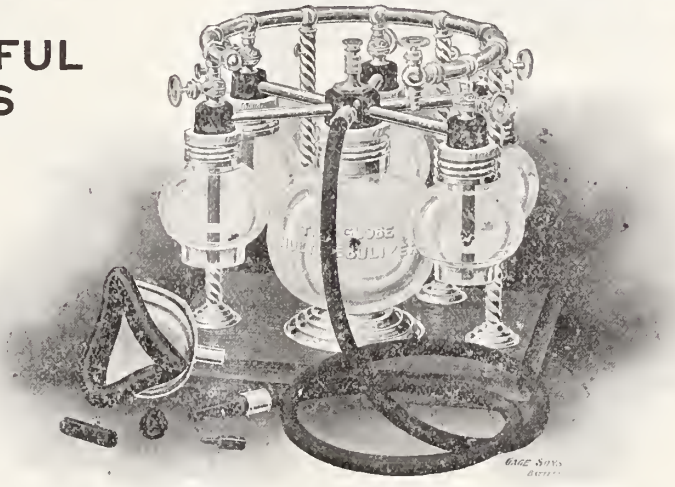

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bath at a temperature of 104° F. and cold water simultaneously poured upon the head are most efficacious in inducing sleep. In melancholia, where arterial tension is usually high, paraldehyde in doses of from 40 minims to 90 minims or even more is a valuable hypnotic, and so is morphine, but a one-grain dose of erythrol tetranitrate by reducing arterial tension will frequently act better than anything else. In mild cases of delirium tremens sleep usually comes on after a time whatever treatment be adopted; in the more severe cases chloral and bromides, alone or in combination, are beneficial. Paraldehyde is recommended by some physicians. Opiates may be given, but in most cases hyoscine is probably a more efficient remedy. Among the medical officers of the American army 20 grains of powdered capsicum in the form of a bolus is the favorite hypnotic for this complaint. Dr. Bradbury says he has had no practical experience of this prescription, and therefore cannot express any opinion of its value as a mode of treatment. Cerebral depressants should be given as little as possible, and the treatment should be confined chiefly to feeding and tonic measures.

In pneumonia sleep usually comes at the crisis, but where this has not occurred he has occasionally seen a hypnotic, such as chloralamide or paraldehyde, turn the scales in favor of the patient. In plurisy and most other serious inflammations, from five to ten grains of Dover's powder usually conduces to sleep mainly by relieving the pain. A hypodermic injection of morphine may be given with the same object in view. In bronchitis chloral and chloralamide are safe hypnotics, and as a rule opiates are to be avoided, as these depress the respiratory center. The sleeplessness of asthma is relieved by remedies which cut short an attack, such as chloral hydrate, the fumes of asthmatic powders, the hypodermic injection of morphine, or in some cases from a five-grain to a ten-grain dose of citrate of caffeine. Bromides are also useful, and so is paraldehyde, which both relieves the asthma and causes sleep. A change of locality even to another part of the same town often succeeds. In one case the removal of a student from Downing College, Cambridge, to a house across the street brought relief, and in another of Dr. Bradbury's pupils the change from Caius College to a house in another part of the town brought to an end a most troublesome attack of asthma with its attendant sleeplessness.

The insomnia of heart disease is benefited by digitalis, strophanthus, strychnine, and other cardiac tonics, but in some cases it is necessary to resort to morphine either by the mouth, or, still better, hypodermically, as first suggested by Professor Allbut. Paraldehyde and chloralamide are in Dr. Bradbury's experience most useful. Ice to the head is recommended by Morrison where the vital forces are not too low or the temperature subnormal. It often produces sleep rapidly, with a more regular cardiac action. Heat may possibly answer in other cases presenting a subnormal temperature. In chronic Bright's disease insomania is occasionally very troublesome. Eliminants such as aperients should be tried, and if they do not succeed chloral hydrate may be given. The drug is safer in kidney than in heart disease, the reduction of blood-pressure being usually beneficial rather than otherwise. Morphine and hyoscine hydrobromate subcutaneously injected have been recommended in obstinate cases, but their employment requires great caution. Erythrol tetranitrate, by reducing arterial tension, often acts as a charm even when sedatives have failed; and in one of Dr. Bradbury's patients thorough rubbing of the skin by means of a flesh-brush induced sleep and very materially relieved the restlessness of the disease. When pain is the causal factor of insomania morphine is usually the best remedy, and this should be pushed until relief is obtained. In cases of neuralgia, locomotor ataxia, and so forth, some of the synthetic analgesics—phenazone or phenacetine—are of value. These drugs, as has been previously stated, act also as hypnotics in cases where there is no pain. Calcium chloride is a valuable remedy in the insomnia due to pruritus.—*Therapeutic Gazette*, Phila., 1899, xxiii, 830.

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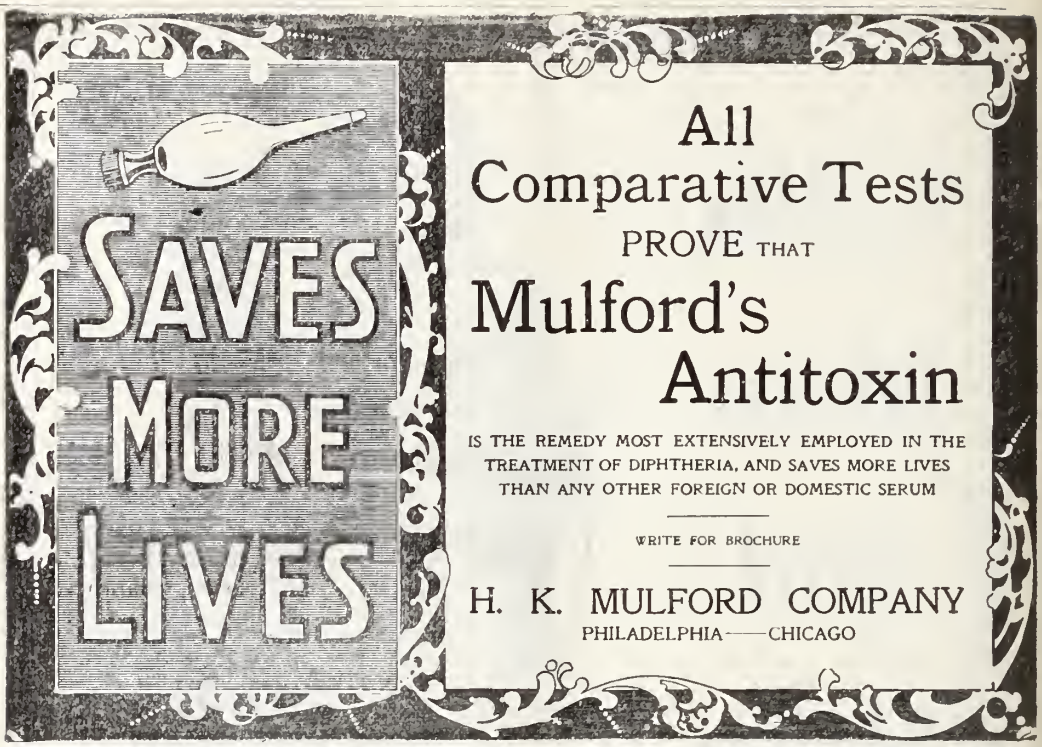

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NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., JANUARY, 1900. No. 8.

Original Article.

ABSTRACT OF THE ADDRESS OF FRANCIS B. BISHOP, M. D., PRESIDENT OF THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

[Delivered before the ninth annual meeting held at Willard's Hotel, Washington, D. C., September 19th-21st, 1899.]

Ladies and Gentlemen, and fellow members of the American Electro-Therapeutic Association:

Once in every little while, one hears a wail and cry at the loss of the "old time family physician," and at the rapid growth of special branches in the healing art. Our old time physician was, at once, our physician, surgeon, nurse and apothecary, oftenor friend and adviser and always a welcome visitor in sickness or in health. We would not depreciate him if we could, nor could we, if we would; ever faithful, ever true, he lives today in all his glory, and will exist to the end of time. It is true he has changed, for in his pursuit of a general knowledge of disease, he finds himself consulting works on special branches, written by men who have devoted their lives to the study of special diseases and special apparatus. He no longer calls a case of appendictis typhlitis or peri--typhlitis, and allows his patient to linger and slowly die of pyemia, but he calls a surgeon because of his special studies in this disease, as well as his known skill in manipulating the knife, the use of antiseptics and his knowledge of regional anatomy, and he feels that his patient has a better chance for his life and restoration to health in the hands of an acknowledged expert. He knows no selfishness, he is thinking only of the welfare of his patient, and I have known the country practitioner to lose many days and travel many miles with a patient, at considerable personal loss, to consult an expert. The oculist, the neurologist, the analytic chemist are all consulted in their turns, in order that the pathology and treatment of disease may be considered from the highest standpoint of science.

Why does "our old family physician" no longer treat all the diseases that fall to his care? Those of the eyes, the nose, the lungs, etc.? Is it because he is retrograding? No, I say emphatically, no. There never was a period in the history of man, that has produced more skilled and scientific physicians than the present. It is because of their progress and the progress that has been made in the study of disease, that renders special study upon special branches necessary. The skill of the general practitioner today renders him able to detect very early a condition calling for special treatment of a special kind, and enables him to call to his assistance the expert, often while it is yet time to

save life and restore the patient to health. It is impossible for any man to make himself proficient in all the branches of medicine of today, as it requires all the time, energy and application of an ordinary man to master one branch and attend to it as he should.

As we all know, for many years, the use of electricity as applied to disease, was largely in the hands of quacks and charlatans, but a few legitimate physicians had the courage to carefully study this agent as scientifically applied to the cure of disease, and to put the result of these observations and study into practice, amid the jeers and sneers of the professional world. Gradually these pioneers gathered recruits and ultimately formed themselves into a scientific body for "The cultivation and promotion of knowledge in whatever relates to the application of electricity in medicine and surgery." This was the nucleus of our honored association, and while we are, as a body, only nine years old, already, sister electro-therapeutic associations are being formed in France and in other countries across the water, and if the founders of this association have no other monument, this association, at least, will I hope, remain a living testimonial to their worth and their efforts in behalf of human kind. This may be accomplished by continually increasing the working efficiency of the association, and this can be done only by requiring applicants for membership to show reason why their applications should be considered, by furnishing a thesis on electro-therapeutics and presenting it with their applications to the executive council. This clause did exist in our constitution, but instead of being enforced, has been left out in the revision. It is to be hoped that this matter will enlist the sincere consideration of the association, for I earnestly believe that if we wish to increase our membership with good, earnest, working scientists, it can only be done by making it an object to become a member, and those who aspire to membership will work and study until they can furnish the requirements. It is not right that we should consider applications for membership from those who are not qualified to prepare a thesis. The quotation, "By their works ye shall know them," applies to this association and is just as true today as it was a hundred years ago. The eyes of the world are upon us and we should endeavor to let our "lights so shine that they may see our good works." At a meeting of the executive council in New York on May 29th, last, a committee was appointed to "present and urge to the American confederation of medical examiners the importance of adding to the college curriculum the subject of electro-therapeutics." It is hardly fair to assume that we will be able to elicit the consideration of these gentlemen if we do not maintain a high standard of required efficiency by restoring to our constitution, and enforcing, the clause which must, at once, give us strength, and command the respect of the scientific world.

Electro-therapy is not a simple subject, or one to be treated lightly. It is a progressive science, and demands the sincere consideration and undivided attention of those who wish to make a success in the practice thereof; therefore, the electro-therapeutist becomes a specialist, and, in consequence of the great variety of disease that will come under his care, it is decidedly better that the electro-therapeutic specialist should have

been a general practitioner of some years experience, as this experience will enable him to recognize complications and to give them the required medical treatment. A great many cases come under his care, which have been treated in a variety of ways and by many methods, and, not infrequently, electricity has been used by some physician, thoroughly qualified in other respects but inexperienced and incompetent, to use electricity to the best advantage. Hence, by the injudicious use of this potent agent, the inexperienced physician does infinite harm instead of doing good.

When we consider the variety of diseases and conditions which the electro-therapeutist must treat, and the varied stages of the same disease requiring different methods of treatment, the demand that he know his apparatus and the currents they produce, and how to vary them to suit special conditions, becomes imperative.

He should understand his static machine—how to take it to pieces and replace each part, how to keep it clean and how to keep it charged ; he should know, as far as possible, the therapeutic value of the separate poles ; how to get the soothing, the tonic and the stimulant effects of the convective discharge ; how is the best and most agreeable way to get the "Morton Static Induced Current," and above all, to know when the spark should be used, and in what degree. He should know when the ozone bath is indicated, and the best method of obtaining it ; how to use the unidirectional high tension static current and to know the cases requiring it. These, and many facts beside, that are necessary can only come by constant practice and close application to the study of the subject of static machines.

What is true of static electricity, is true also of the direct current, the induction coil, the sinusoidal machine, the high frequency apparatus and the alternating dynamo currents, of high and low voltage.

A working knowledge of volts, amperes, jouls, watts, ohms, coulombs, etc., should be within the knowledge of every electro-therapeutic specialist.

He should know how to diagnose a case of multiple neuritis without testing the motor points for reaction of degeneration, and he should not treat a case of wasting of the limbs with complete or partial paralysis, until he is sure of his diagnosis. Neuritis and polyo-myelitis often produce conditions similar, and are to be treated very differently. What will cure the one might render the other incurable. A sciatica or other neuralgia must be very carefully examined before treatment to determine whether it be a neuritis, rheumatism or due to some local pressure, or is simply a reflex manifestation of some other existing disease. He should know when, and in what manner, to treat a uterine fibroid in order to do the most good and the least harm, and he should also know what cases he should not treat at all. Ovarian neuralgias are often easily cured by the proper method of electrical treatment, but pus tubes should be carefully avoided with any current which would produce the slightest contraction, and, in my opinion, they are cases entirely for the surgeon, especially if the case is well developed. He should know that where the induction coil is indicated, the direct current will often not take its place, and that a stricture cannot be dissolved by the interrupted current, and can only be

treated successfully by the most patient care of the operator with the proper instruments, and that the "Tactus eruditus" is nowhere more requred than in the treatment of organic st-icture by electrolysis, etc.

These are only a few of the important requirements of the electro-therapeutic specialist. He is called to treat from the mildest to the most profound functional nervous troubles, and the most intense organic lesions are sent to him for treatment. He should know how to discriminate and be careful in his prognosis. If he treats a serious case lightly, he is bound to suffer in the end, and if he gives an unfavorable prognosis in a functional or curable case, he runs the risk of causing the patient and friends to suffer untold agony, if indeed he does not render the case entirely hopeless.

These and many more reasons which you, Fellows of this Association, already well know should place the skilled electro-therapeutist in the front rank of specialists, and because of our study and practice in this special branch, we become the ally of the general practitioner: his interests are our interests, and it is our duty to do all in our power for his patients when they are sent to us, and at the same time, carefully guard the honor and professional standing and interests of our brother, so that he may feel, when his patients have been entrusted to our care, that they will return to him when in need of general attention, for, as you no doubt already know, it is a common experience with specialists to have those whom they have benefitted to plead for attention from this specialist for attention for all causes and complaints, because the patient imagines that, as we have cured a malady which others have failed to cure, our skill must, of necessity be greater in all other diseases. We should be big enough to disabuse their minds.

The general practitioner, in sending patients to the electro-therapeutic specialist for treatment, often injures his own case and ties the hands of the specialist, by sending them with restrictions often telling them that they ought to experience considerable improvement in a week or a month. When the patient is suffering from a disease that different doctors have been working on, for years without the slightest benefit, then the electro-therapeutic specialist should be given unlimited scope in completing diagnoses, and having made urinalyses, microscopic examinations, and, in fact, do all in his power to place himself in the right position to do the best he can for the patient, and when, in his judgment, it is required, he should have the privilege of prescribing the medicine needed in that particular case. I have had patients come to me and tell me that their physicians thought that a few *shocks* of electricity might do them good; now, we all know, and the papers that are read before this association annually prove conclusively, that many chronic diseases that have failed to respond to other methods of treatment, have yielded to electrical treatment, only, however, when properly applied, and often, many months of treatment are necessary before we get the slightest sign of improvement, and yet the case may be, and often is, susceptible of great improvement and sometimes cure, by persistent, careful treatment.

The medical colleges are slow to recognize the importance of this branch, and of dignifying their faculty by making a chair on electro-therapeutics. Some of the advanced colleges have done so,

and it seems reasonable to conclude that, if a school of medicine wishes to be considered first-class, it must teach this branch, and teach it well. The students will, in time, demand it, for the time is not far distant when the student will realize that the college which does not include an honest teaching of electro-therapeutics in its curriculum, is not giving a proper education, and is leaving its alumni far behind their competitors from other schools of medicine where this branch is taught, and I believe it to be the duty of each member of this association to influence the students of medicine under his care, to attend only colleges fully equipped with apparatus, and furnishing a chair on electro-therapeutics filled by a thoroughly competent professor. In the present state of electro-therapeutic knowledge, I do not believe any self-respecting electro-therapeutist would be willing to accept a minor position on a college faculty, but that he would demand a title and a position equal to those of his fellow teachers.

Statistics of Typhoid Fever at the Roosevelt Hospital for ten Years.

Dr. William H. Thompson, of New York, presented his statistics on typhoid fever for the period from September, 1889, to September, 1899. The total number was 368.275 being males and 93 females. The total number of deaths was 25, or 6.8 per cent. Of those who died 14, or 56 per cent., succumbed within a week after admission. Diarrhœa, developing after the first week in the hospital, was reported in only 8.7 per cent., and in the majority of these it was not very severe. This comparative rarity of diarrhœa he attributed, not to a change in the type of the disease, but to a change in diet, these patients not being fed on beef tea as was formerly the routine. Tympanites had been very common among the soldiers returned from Cuba, but excluding these cases, it was noted only in 11 per cent. In 321 cases there had been no delirium. Pneumonia had occurred in 7 per cent., and bronchitis in 8 per cent. Phlebitis had been present in 7 cases. Relapses had occurred in 55 cases, or 15 per cent. The treatment had consisted in the use of a purge of calomel and jalap every third night, up to the close of the second week. Equal parts of milk and lime water was the exclusive diet until the end of the fourth week. He also used pepsin to aid the enfeebled digestion. Gr. x. each of pepsin and bismuth were given every three hours. As soon as the tip of the tongue became dry *m* x.—xx. of spirits of turpentine were given every three hours. To combat the general toxæmia, the speaker said, he knew of nothing equal to the general cool bath. It was employed as soon as the temperature reached 103° F., and active friction was kept up during the bath. He had found that there was less depression and a more prolonged antipyretic effect from the artificial Nauheim baths. Rectal irrigations with saline solution had been used with the object of increasing elimination.—*Georgia J. Med. and Surg.*, 1899, v, 397.

Bicarbonate of Soda as a Dressing for Suppurating Wounds.

Auge and Casteret (La Presse. Med.) say that bicarbonate of soda used in a two-per cent solution is an excellent treatment for suppurating wounds. They have used it in some sixty cases with great satisfaction. The solution is not bactericidal but it acts in a wound as an antiseptic, probably because its alkalinity preserves the tissues and puts them and the blood in the best condition to overcome the germs. Moreover, the healing of a wound according to Preobrajenski is not exclusively due to the destruction of germs. It depends upon the capillary circulation in the wound. It the liqtuids in the wounded area pass from within the body outward they carry off toxins; if they pass from without inward general infection follows. This view has been proven by a number of experiments. Bicarbonate of soda by dissolving the fatty matter of the skin stimulates the secretions through all of its pores while keeping all the tissues in a vital condition. It is in a certain sense, therefore, a physiologic dressing.—*Medical Standard.*

THE NATIONAL MEDICAL REVIEW,

EDITED BY

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AND

THE MILITARY SURGEON,

A SUPPLEMENT.

OFFICE: 1134 Fifteenth Street, N. W.

WASHINGTON, D. C., JANUARY, 1900.

Editorial.

"LOVELINESS" AND VIVISECTION.

"Loveliness" is the name given to a short story written by Elizabeth Stuart Phelps and published by Houghton, Mifflin & Co., of Boston. It tells of a little girl and of her devotion to a pet dog called Loveliness. The dog is stolen and the little girl grieves and pines. Loveliness is, however, discovered and, in the very nick of time, rescued by the child's father (a physician) from the knife of the vivisectionist. The little girl rejoices in its recovery and all goes happily ever afterward.

The book is well written, nicely printed and has a picture of Loveliness as a frontispiece.

It is apparent at a glance that the intent of the book is not alone the telling of a touching story of childhood. It has a barely concealed purpose or moral; which is, to stir up sentiment against, and foster opposition to the so-called cruel and bloodthirsty vivisectionist.

It is a fact as old as the hills that every advance, however slight, in any of the numerous departments of science, has been made only with the greatest effort and in the face of the most tremendous opposition, and the present warfare against experimentation upon the lower animals is simply an outburst of that emotional feeling inherent in all societies, a crisis in the prolonged struggle between sentiment and science. To those who know the results that have been accomplished by vivisection, who realize the potentialities for good that lie within it, and are now opposing repressive legislation, a study of the past should offer consolation and hope. The strenuous opposition that the early anatomists had to encounter, the fanatical assaults that were leveled at the employment of anesthesia, at vaccination and at therapeutic and hygienic reforms generally, and the utter futility of all efforts to hinder man in his struggle for betterment, predicate with the utmost certainty the final victory for vivisection.

Sentiment and tradition once maintained that, since a Deity, elsewhere described as merciful, had decreed that as a punishment for the sin of one woman, all women through countless ages, after being directed to be fruitful and multiply, should bring forth their offspring with pain and travail, therefore science was directly opposing the will of God in lessening or preventing this suffering through anesthesia. Today sentiment

and tradition keep alive the fable that animal experimentation, as conducted by scientific men, is painful and cruel to the brute, brutalizing to the man and barren of good result to anybody. It will be but a short time before the one idea is relegated to the same limbo as the other.

Those who are endeavoring apparently to restrict but actually to prevent vivisection, are either unwittingly or wilfully ignorant of two things. They do not know or will not learn what a vast debt humanity owes to experimentation upon the lower animals, and how, through this experimentation, and through it alone, a huge store of knowledge has been accumulated, knowledge of such practical value and universal application, that the sum total of human suffering has been immeasurably reduced thereby, while the aggregate of human life has been considerably prolonged. Furthermore, they will not, or cannot see that vivisection is, in itself, not cruel and does not foster heartlessness and inhumanity in those who practice it. These two things are not fancies but facts and as such capable of practical demonstration; all that is needed is a little calm and unbiased reading and investigation.

If every crime have a motive and if vivisection be a crime, what motive actuates those who practice it? It cannot be a love of cruelty, an inborn heartlessness, a desire for inflicting pain; for the investigator, through the use of anesthetics and narcotics, endeavors and, in the vast majority of instances succeeds, in totally eliminating the factor of physical suffering. It cannot be a desire for gain; for the results of all such work are freely and gladly dedicated to the good of humanity. It cannot be for the sake of amusement; for every form of experimentation is most laborious and confining and is hedged about by risks, so great, that hundreds have lost their lives in its performance. It cannot be selfishness: for many of this despised class of men have cheerfully offered themselves as subjects for most dangerous experiments and have courted death for the sake of their fellowmen.

No, none of these motives actuate the vivisectionist. The so-called sportsman inflicts the most hideous cruelties without question; dumb animals, far in excess of man's needs for food and clothing are cruelly tortured and sacrificed; fur seals are beaten with clubs and flayed alive that women folk may outvie their neighbors in elegance of dress; millions of birds and animals are slain for pure wantoness or for purposes of ornament, and all this without remonstrance or at least abatement. But it is the vivisectionist, who, working quietly in an atmosphere which may be death to himself; safeguarding the brute from the slightest suffering, and evolving, for example, a fluid that has spared an infinitude of human suffering and rescued thousands of children from the grave, a marvelous discovery given to all to make use of as they will—it is he whose acts are to be regarded as a crime, and, therefore, subject to the inspection, regulation and interference of an ignorant and prejudiced police.

Every subject, among a practical people, should be viewed from a standpoint of pure utilitarianism; and that vivisection, when so regarded, has been of great economic value, cannot be questioned.

Few of us stop to think of the aggregate money loss involved in sickness and death. The Bureau of Animal Industry

of the U. S. Agricultural Department can easily prove by figures that, through the sacrifice of one heifer, valued at so many dollars, many thousands of other heifers of equal or greater value per head, may be and are daily saved by the use of black-leg vaccine. This is a simple arithmetical proposition and as easily demonstrable as that two and two make four.

Diphtheria is a disease which numbers its victims by thousands, and each case of diphtheria means so much money loss to the community, and hence, in proportion, to each individual that goes to make up the total of the community. It has been shown in another place that the annual loss to the city of Washington through typhoid fever alone is $393,835.95; and that this disease in the past seventeen years, during which accurate statistics have been kept, has cost the city $6,695,211.15.

If the actual money loss from cases of and deaths from diptheria is anything like that resulting from typhoid fever, and there is no reason to suppose it very much less, then such loss has been very great, and it has fallen, where it is hardest to be borne, chiefly upon the poorest class of residents. But a study of the reports of the Health Officer of the District will show that there has been a marked diminution in the number of deaths from diphtheria in the last five years, the percentage of fatal cases falling from 39.81 per cent. in 1893–4 to 18.71 per cent. in 1897–8, and that this decline, with the exception of one year, has been progressive and constant, while among the whites the mortality rate fell from 43 41 per cent. to 13.56 per cent. within the same period. This favorable result has been justly ascribed to the use of the antitoxin of diphtheria, and if further proof were necessary, it is furnished by the fact that, within a recent period of seven months, the mortality among cases treated within antitoxin was 3.8 per cent. as against a mortality of 34.2 per cent. where other methods of treatment were used.

There can be no doubt, therefore, that in addition to the large number of lives that have been preserved, an immense sum of money has been saved to the community through the use of diphtheria antitoxin, a remedy whose discovery and systematic elaboration, without the employment of the lower animals, would have been impossible. And further, since the cost of the experimental animals has been as nothing compared with the actual and potential value and earning power of the meanest life preserved, it follows that the investment, if looked at solely from a pecuniary standpoint, has been a most profitable one.

No book like that which is before us, nor any similar appeal to the emotional an unreasoning element in man, nor any legislation, however repressive, can, in the end, be aught but futile nor act otherwise than as a further stimulus to humanity in its prolonged but successful struggle for betterment.

Notices and Reviews.

DIARY FOR 1900.

Fairchild Bros. and Foster present to the profession with their compliments this handy little volume which will be of use on every doctor's desk.

COCA AND ITS THERAPEUTIC APPLICATION. By Angelo Mariani. New York. J. N. Jaros. 1896.

This is the third edition of Mariani's interesting studies of the Coca plant. The physiological researches were made at his laboratory in Neinlly where in connection with hot houses, the study and cultivation of the coca plant is carried on under his personal supervision.

YEAR BOOK—1900. M. J. Breitenbæch, New York.

This is a useful little manual which the Breitenbach Company presents to the profession yearly. An excellent picture of the late Lawson Tait serves for a frontispiece.

MODERN TREATMENT OF FRACTURES By Dr. John B. Roberts. New York D Appleton & Co. 1899. Price, cloth, net.

As the author very truly says in his preface, no injuries require more careful and judicious treatment than fractures; and in no branch of surgical therapeutics is the exercise of common sense followed by more satisfactory results than in the treatment of these lesions. A blind reliance upon therapeutic dogmas and the adoption of routine measures, without due consideration of the mechanical and pathological problems presented, have led to many disasters in this department of surgery. The essays brought together in this little volume represent the views announced at various times by Dr. Roberts and picture fully the recent advances made in the treatment of fractures.

REFRACTION AND HOW TO REFRACT. By Dr. James Thorington. Philadelphia. P. Blakiston's Sons & Co. 1899. Price, cloth, $1,50, net.

This book was written at the request of the many students who have attended the author's lectures on Refraction at the Philadelphia Polyclinic; and while it is intended for all beginners in the study of Ophthalmology, yet it is especially for those practitioners and students who may have a limited knowledge of mathematics and who cannot readily appreciate the classic treatise of Donders. By being dogmatic rather than ambiguous, with occasional repetitions to avoid frequent references, and by simple explanations and a definite statement of facts, the writer has made the text more concise and comprehensive than if encumbered with lengthy mathematical formulas or with any discussion of disputed points.

BACTERIOLOGY IN MEDICINE AND SURGERY. By Dr. Wm. H. Park. Lea Brothers & Co., Philadelphia. 1899. Just ready. Price, cloth, $3.00, net.

This new work on pathogenic bacteriology will commend itself to doctors, surgeons, students, and health officers as a modern authoritative and comprehensive presentation of a science second to none in importance. Laboratory technique is given in its essentials and to such an extent as is necessary to make bacteriological methods plain to the physician, to guide him in making such examinations as are possible in his office and to instruct him under what conditions he can obtain diagnostic or other help from bacteriological examinations in laboratories. Particular emphasis is given to such subjects as the chemical changes produced by bacteria, infection, immunity, the nature and use of protective serum and the diagnostic value of cultures. To health officers the book will be of great service, as laboratory methods for the isolation and identification of the bacilli of typhoid tubercle, and diphtheria have been given with especial fulness. Illustrations in black and colors have been freely used. Besides a full general index, the volume includes a novel and useful index of diseases and the bacteria found in them.

Progress of Medicine.

Urotropin in Chronic Inflammation of the Seminal Vesicles.

Dr. J. M. Thompson (*Boston Medical and Surgical Journal*, November 16th) says that thus far in his experience urotropin has had the most noticeable and salutary effect in this affection. As a rule, when first seen, these patients call one's attention to the urine, which is nearly always abnormal in color, high in specific gravity, and more or less turbid. A deranged nervous system is not uncommon, while the neurotic element frequently betrays itself. Such patients, too, are likely to suffer from either periodical or persistent phosphaturia, which urotropin dissipates as if by magic. The turbidity so common in these cases, whether due to the pathological deposit which escapes backward from the vesicles or to involvement of the prostate (what is known as "prostatorrhœa"), to a catarrhal condition of the deep urethra or to the presence of bacteria, disappears after the administration of urotropin.

It is not uncommon to find among those who have suffered from the pangs and discomforts which only the gonococcus causes that after all symptoms have ceased for a time the discharge returns copious and free, yet unaccompanied by the other symptoms characteristic of the first stage. Naturally, such patients are likely to be extremely debilitated and nervous; their urine is either neutral or alkaline. Upon questioning them one will discover that the treatment which they have followed included the daily use of an antacid, like sodium bicarbonate, which for the first few days contributes to the patient's relief, but when continued beyond the acute stage, or rather beyond the time when such treatment is indicated, by prolonging an abnormal (alkaline) reaction of the urine, keeps such normal constituents as phosphates, carbonates, etc., in a state of precipitation, a condition that must in time act as a mechanical irritant to the urethral mucous membrane and provoke what may be termed a "phosphatic urethritis." If urotropin is ordered in seven-and-a-half-grain doses morning and evening, a most happy effect will be noticed in about forty-eight hours, and, unlike the effect produced by a mineral acid, of a permanent character.

Recently the author tried urotropin in two cases—the patients aged sixty-four and fifty-seven respectively—with enlarged prostate. Both had been obliged to use a catheter for years, except at times when the symptoms abated sufficiently to enable them to void their urine naturally. At such times as the catheter was not a necessity the urine appeared normal, beyond the presence of small flocculi and comma-shaped shreds; whenever the catheter was likely to be employed the urine took on a murky, cystitic look, and soon became alkaline and foul-smelling. The usual subjective symptoms returned, and life became a real burden. Both patients were under observation at this stage, when it was expected that the catheter might be required at any moment. In order to test the virtues of urotropin, each patient was put on seven grains and a half of the drug three times a day. The effect was most gratifying, for the urine cleared up rapidly, and the subjective symptoms disappeared gradually. The urine still remains in a satisfactory condition, and both patients report that urotropin has enabled them to enjoy the longest period of happiness that has fallen to their lot for years.—*N. Y. Medical Journal*, 1899, lxx, 901.

Observation about Sore Nipples.

According to Platzer, sore nipples are caused through biting and pulling during the process of nursing. The best treatment of fissures are applications of carbolic acid solution. Ulcerations should be washed with corrosive sublimate solution and dusted with dermatol. In mastitis nursing must be interrupted, the breasts compressed, and ice bags applied. Among 1,000 nursing puerperæ in Kezmarsky's clinic sore nipples were observed in 51.5 per cent.—*Am. J. Obst. and Dis. Woman and Children*, N. Y. 1899, xli, 865.

Dieting in Pregnancy.

In contracted pelvis and other conditions in which it is desired to keep down the size of the fœtus, Dr. Bedford Fenwick (*Medical Times and Hospital Gazette*, September 16th) advocates rigid dieting with restriction of starches, sugars, and fluids. The following is an example of the dietary followed: For breakfast, a small cup of tea or coffee, an egg, and two slices of toast. For lunch, any kind of meat, game, or fish, green vegetables, one slice of toast or a dry biscuit, cheese, one wineglassful of wine, milk, or any other fluid, excepting malt liquors. At afternoon tea, a small cupful of tea or coffee, with one slice of bread and butter, or cake. For dinner, the same as for luncheon.—*Med. Rec.*, N. Y., 1899, lvi, 894.

Induction of Abortion or Premature Labor in Pregnancies, Complicated by Nephritis.

The induction of abortion or premature labor in pregnancies, complicated by nephritis (be the nephritis of the gravidaric, parenchymatous or interstitial form), will, according to M. J. Lvov (Kazan), when timely performed, often be the means of saving the life of the mother, and in premature labor, also that of the child.

The procedure is indicated in the following conditions:

1. The kidney of pregnancy, when even under appropriate treatment the condition gets worse, the albuminuria increases and the urinary flow decreases. Gravidaric nephritis most often first appears in the sixth month of gestation, and as the patients only first apply for medical attendance after two or three weeks of alarming symptoms, and that medical treatment must not exceed two weeks, the pregnancy is then in its eighth month; that means that we have a perfectly viable foetus.

2. When pregnancy is complicated by an acute parenchymatous nephritis, abortion or premature labor must be immediately induced) be the fœtus viable or non-viable). It offers us the only hope of saving the mother.

3. In chronic nephritis gestation must be interrupted, if the edema becomes more marked, if the quantity of urine voided lessens and if the albuminuria increases. It is useless to wait for a viable foetus, for the nephritis itself causes the death of the fœtus and often provokes abortion.—*Chicago Clinic*, 1899, xii, 513.

Diabetes In Childhood.

Bogorus observed 20 cases in children under 16 years of age. Nearly 500 cases have been reported in literature. The disease increases in frequency with age, there being only 13 under 1 year and over 200 between 10 and 15 years. The diagnosis rests, of course, upon the finding of sugar in the urine. For this purpose it is best to collect the entire quantity for twenty-four hours. The disease has two stages, the latent and the acute. During the latter the urine contains much sugar, no albumin, but a good deal of acetone, and occasionally it gives a marked diazo-reaction. This stage is not prolonged beyond a few months, as a rule, and usually ends in coma. The age of the child seems to influence the duration of the disease, which is almost invarably fatal. The chief characteristics of these juvenile diabetes cases are: very frequent hereditary handicap, of the peculiar course, the almost invariably fatal termination, the negative postmortem findings, and the absence of complications.—Am. J., obst., and Dis. Women and Children, N. Y., 1899, xl, 869.

The Use of Boric Acid and Formalin as Preservatives of Milk.

As the result of an investigation undertaken for the purpose of determining the harmfulness of boric acid and formalin when used as preservatives of milk, Annett (*Lancet*, November 11, 1899, p. 1282) has found that these chemicals, when so used, are injurious to the health of the consumer, and particularly so to that of young infants. Further, it is easy to conceive that the great mortality rate among infants from diarrhœa in many large towns may be closely connected with the practice, especially during summer months, of systematically "doctoring" milk by means of the preservatives used by milk purveyors, dairymen, and milkmen.—*Med. Record*, N. Y., 1899, lvi, 894.

Treatment of Superacidity of the Gastric Juice.

Dr. Wold Bachman communicates the results of his experimental work bearing on this subject in the Archiv. f. Verdauungskrankheiten, B. V. H., 3.

Most authors have recommended a meat diet in this affection on the ground that it better subserved the nutrition of the patient and combined with more of the acid secreted, leaving less as free HCl to become an irritant to the mucous membrane. Authors have usually permitted fats in moderate amounts.

Bachman investigated the effect of various simple foods and of the action of two meals, one consisting of animal food chiefly, the other of vegetable. The quantities of each were regulated so as to give about the same nutritive value.

It was found that mush and bread cause the earliest appearance of hydrochloric acid, next potatoes and milk and last beefsteak. The total quantity of free HCl was greatest with potatoes and least with eggs and milk. A vegetable meal causes less free HCl than an animal. As regards the total quantity of hydrochloric acid, both free and combined, the greatest amount was produced with beefsteak, less with eggs and least with potatoes, bread, mush and milk. It was higher with the meal of animal food than with vegetable. The total acidity followed the same rule. The digestive power of the gastric contents is not markedly influenced by the different kinds of food. Beefsteak remains in the stomach considerably longer than the other foods. The greatest production of lactic acid occurs with potatoes. Butter and cream, added to other foods, lessens the production of acid. The author concludes that vegetable food and milk fulfill the requirements of a dietetic treatment of hyperchlorhydria and hyper-secretion better than an animal diet. Potatoes, however, must in most cases be regarded as less serviceable on account of the subjective trouble which they cause as well as greater amount of free acid, of lactic acid and of gas which they cause to be formed. Butter and cream must not only be regarded as allowable, but on the other hand should be recommended on account of their power to reduce the production of gastric juice.—*Chicago Clinic*, 1899, xii, 508.

The Difference in Labor Between Savage and Civilized Women.

Dr. Archdall Reid (*British Medical Journal*, October 14th) thinks that the difference between savage and civilized women, as regards labor, may be explained in a manner which seems feasible, and is at any rate in accordance with modern theories of heredity. We know that, while children tend to inherit the peculiarities of their parents, they tend also to vary somewhat from them. Thus, for example, big or fair people tend as a rule to have big or fair children; but each child, generally speaking, is bigger or smaller, fairer or darker, than the parent. It follows that women with large or small pelves tend to have daughters with a like peculiarity also; and that people, who at birth had large or small heads, tend to transmit this peculiarity also. Now savage women, generally speaking, have large pelves, and bear children with small heads, hence the the ease of their labors. When, however, a savage woman varies from her parent in such a manner as to have a small pelvis or to bear a large-headed child, her life is endangered. A really difficult labor requiring surgical aid of course to her means death. Among the lowest nomadic savage, a labor even as difficult as is normal among civilized races would be fatal. The race is thus strictly purged, generation after generation, of all narrow hips and large heads, and the right proportion between head and pelvis is from age to age secured.

But with the rise in civilization greater care is bestowed on lying-in women; those who would otherwise have died are preserved, and thus the just proportion between head and pelvis gradually lost. First, natural labors become difficult, though not impossible. The severity of the labor exhausts the woman, and makes her so ill, and liable to septic infection from tears, abrasions, and crushings, that under more savage conditions she would perish. In any case she is incapacitated from labor or movement for some days. In the highest civilization, such as our own, labors are so difficult that many of them are terminated only by surgical in-

terference. How important this surgical interference is, every skilled obstetrician may judge for himself. Let him think how many small-hipped women and large-headed children he saves annually. Suppose they perished, would not the average difficulty of labor among the circle of his patients be appreciably ameliorated in the next generation? What happens in his own circle happens in the world at large. Here, then, the author thinks we have the reason why the labors of civilized women grow increasingly difficult as our surgical skill improves, an increase of difficulty which to some small extent explains that increase of instrumental interference which Professor Sinclair so grievously deplores. About the end of the twenty-first century Dr. Reid thinks it not improbable that another gynæcologist will denounce the obstetricians of his day, and point out that, while their grandsires used forceps in only about seventy-five per cent. of their cases, degenerate contemporaries use them in at least ninety-nine per cent. In the not very remote future it seems to him probable that normal labor will be the exception, not the rule. Injuries will then be very numerous, and gynæcologists very busy.—*N. Y. Medical Journal*, 1899, lxx, 900.

Mobility of Pelvic Articulations.

E. Bonnaire and V. Bué state that the pelvic diameters, especially of the superior and inferior straits, are modified by the position of the trunk and extremities, and that such variations are favored by the relaxation of the symphysis which occurs to a varying extent in pregnancy. The sacrum can be tipped forward or backward on a transverse diameter through the junction of its upper and middle thirds. When the base of the sacrum moves forward the superior strait is narrowed, especially antero-posteriorly, and somewhat transversely; an opposite effect is produced by moving the sacrum in the reverse direction. Increase in size of the superior strait is accompanied by a corresponding diminution of the inferior strait. Hyperextension of the whole body while the sacrum rests upon a firm surface enlarges the superior strait antero-posteriorly by turning the base of the sacrum backward and lowering the pubis. The writers' personal observations have shown that the increase in size of the superior strait is less than Walcher has claimed. It averages, in their twelve cases, 2.5 millimetres. Extreme flexion of the lower extremities diminishes the diameter of the superior strait and increases that of the inferior strait to the extent of 16 to 18 millimetres, as shown by twelve personal observations. Hyperextension favors spontaneous engagement of the head in cases of rachitic variations in the pelvis. One can count upon a sufficient enlargement only in cases in which there is an appreciable mobility of the pubic bones upon each other. The position of hyperextension is indicated to aid the engagement of the head with the aid of forceps or to extract the aftercoming head which is delayed at the contracted superior strait. Part of the advantage thus gained is neutralized by the interference with obstetrical maneuvres caused by the position. The position of extreme flexion in which the knees are brought up to the shoulders is valuable in cases of contraction of the inferior strait, kyphotic pelvis; in those brow presentations in which the head is arrested in the pelvic cavity and must be extracted with forceps; and in those cases in which, after delivery of the head, the shoulders are so large as to be retained above the floor of the pelvis. The maximum enlargement is obtained by bringing the knees opposite the shoulders, avoiding abduction and adduction of the thighs. This position is most efficient in kyphotic pelves in which no rachitic element is present.—*Am. J. Obst. and Dis. Women and Children*, N. Y. 1899, xl, 861.

Treatment of Perforation of the Bowels in Typhoid Fever.

Dr. W.W. Keen, of Philadelphia, contributed this paper. He stated that from 1884 to 1898, 83 cases had been operated on, with a resultant recovery rate of 19.3 per cent. From the begin-

ning of last year up to the present time there had been 67 additional cases operated on, with a recovery of 26.9 per cent. He favored operating on practically every case of perforation unless the general condition was such as to make the case evidently hopeless. No age was a barrier, though it considerably influenced the recovery rate. Under 15 years the percentage of recoveries was 50; from 15 to 25 years it was 8.1 per cent.; from 25 to 35 years it was 25.6 per cent., and over 35 years it was 28.5 per cent. The best time for operating was not during immediate primary shock, but in the second twelve hours after perforation, all things being considered. The operation should, of course, be done as soon as possible after perforation, but no prudent surgeon would operate during profound shock. During the first eight hours the chances for recovery were one-third of those which obtained during the remainder of the first twenty four hours. The most important advance in technique was the substitution of local cocaine anæsthesia for a general anæsthetic. This had been first proposed by Cushing. The perforation, when found, should be sutured without paring, Halstead's mattress suture being used. Drainage would usually be required; though it was not improbable that better results might ensue from filling the abdominal cavity with salt solution and closing the wound. *Georgia J. Med and Surg.*, 1899, v 399.

Malignant Tumors of the Breast.

In a recent article on malignant tumors of the breast, Dr. W. P. Carr, of Washington, calls attention to the transition of tumors from one type to another, or even from the broad class of the benign to that of malignant growths. In the recognition of these great difficulty in sometimes experienced; pure carcinomata are easily recognized; but there is not only identity of structure between inflammatory tissue and some sarcomas, but there is much evidence to show that benign, as well as malignant tumors, frequently occur in some tissues that have been the seat of inflammatory infiltration. Billings has shown that carcinomas are increasing in frequency in proportion to the increase in high civilization. There are now, according to Williams, 10,000 cancers of the breast in England and Wales. Statistics show that 80 per cent. of all tumors of the breast are carcinomatous and 2 per cent. or 3 per cent. are sarcomatoas, but these statistics are taken from diagnoses made late in the course of the disease. There is no way of knowing just how many of these tumors were benign in the beginning. Carr gives the following practical conclusions: 1. That it is absolutely impossible, in a very large number of cases of cancer of the breast, to make the diagnosis in the very early stages of the disease before operating. 2. That this is the time to operate; for if we wait for diagnostic, or even suspicious, symptoms of malignancy, we greatly lessen our chances for a cure. 3. We should urgently advise the removal at once of every tumor of the breast, no matter how small or innocent it may appear, and invariably have it examined microscopically by a competent microscopist. Nothing will diminish the death-rate from cancer of the breast as the early and complete removal of all growths in this gland, and it is our duty to spread this doctrine among the laity. No operation should be attempted unless there is reason to believe that all the cancerous tissue can be removed. If any portion of the growth is left, it will grow with great rapidity after operation.—*Am. J., Surg and Gynecol.*, St. Louis, 1899. xiii, 108.

Salicylic Acid for Furunculosis.

Philipson (*Deut. med. Woch.*, May 4, 1899) advises the application of a plaster containing 50 per cent. of salicylic acid in the treatment of a well formed boil. This should be changed four or five times a day and the necrotic process will be much hastened. When the core is eliminated, treatment which favors granulation may be begun. Minute furuncles are arrested by the application three times a day of pure alcohol, or alcohol containing 5 per cent. of tincture of benzoin. Larger furancles may be washed with alcohol containing 2 per cent. of salicylic acid, all washing with water and soap being omitted meanwhile. In generalized furunculosis the parts should receive a warm bath daily and then be rubbed with vaselin containing 2.5 per cent of salicylic acid.—*Medical News.*

AN OUTLINE OF THE PRINCIPLES OF MALPRACTICE FROM A MEDICAL AND SURGICAL STANDPOINT.

By Wm. C. Woodward, M. D.

The physician of today is so busy trying to keep abreast of the latest advances of the science and art of medicine, and, I might add, to collect enough of his fees to maintain himself and his family, that he has ordinarily but little time to study his legal relations with his patients and with the community as a whole. If allowed to follow the normal course of practice he is apt to regard the former as summed up in their treatment by him when they are sick or hurt and in the payment by them of his charge at the close of his attendance, without inquiring with any degree of accuracy as to the nature and extent of the mutual obligations, or as to the result of failure to perform them. His relations to the community appear to him to be completely defined by the ordinary statutory requirements—the procuring of a license to practice, and the reporting of births, deaths, and certain contagious diseases as specifically set forth. Most of us will pass thus through our entire professional careers. Occasionally, however, one is reminded that interwoven with his work there are certain other obligations, and when by the sudden and possibly unexpected service of summons in a malpractice suit he is thrown into the tangled mesh of law and medicine these things assume a more definite shape.

The term "malpractice" is not necessarily limited in its application to conditions which exist with reference to physician and patient but may be used with equal propriety to describe analagous circumstances when they relate to other professional men and those whom they serve—as, for instance, attorney and client. As most commonly employed, however, it has reference to malpractice as related to medicine and surgery. The essential principles underlying the condition are the same in all cases. As medical men, however, we need consider the subject only so far as relates to our own profession. But in any case whatsoever in which malpractice exists it is based upon two facts: first, breach of duty; second, injury resulting from such breach.

In determining what constitutes a breach of duty it is necessary to consider separately the obligations of a physician to his patient, and to the community, and we will consider them in this order. Out of the former grows civil malpractice, and damages; out of the latter, criminal malpractice, and punishment. In order to simplify the discussion, however, and so as not to draw it out to too great length, it will be necessary to omit from consideration those who cannot be regarded as free agents, either by reason of mental condition, or of imprisonment, or of obligations which they have assumed by entering the military and naval services. And the term "medicine" wherever used means all branches of that art unless otherwise indicated by the context, and "physician" will likewise include all practitioners of medicine whether their practices be limited to any other special fields or not.

The mutual obligations of physician and patient grow out of the relation which exists between them. The creation of the relation is the voluntary act

of the parties. There is no requirement of law by which any one is bound to attend as a physician any particular individual or class of individuals; when one has voluntarily assumed that relation he has no just cause for complaint if he finds his difficulties and his responsibilities great. No one is bound to employ any particular person as his physician; if, as the result of having done so, he finds himself injured, he cannot properly complain because his remedy appears to him inadequate. From one point of view the relation of physician and patient is that of parties to a contract, each agreeing, either in fact or by implication, to do something for the other in consideration of certain benefits to be bestowed. But the liability for damages for malpractice does necessarily not grow out of the contractual relation, and is referred to here only to point out that physicians in the employ of corporations, even though they be charitable institutions and the service be rendered without compensation either from the institution or from the patient, are liable for any injury which may result from malpractice on their part, and to note in passing that a physician cannot by any express agreement relieve himself from liability for want of ordinary knowledge and skill, and due diligence, which, as we shall see later, he is required by law to have and to exercise.

The duties which the law exacts of every medical practitioner are comprehensive but they are not sufficiently rigid to give any just ground for complaint, especially when we remember that one is always at liberty to avoid responsibility in any case by declining to treat it in the first instance. These duties may be summarized as follows: the physician must possess at least ordinary knowledge and skill, and must exercise at least due care. Whether his duty to maintain inviolable the secrets of his patients can be properly considered in connection with malpractice is possibly open to question, but as this duty grows out of the relation which he sustains to his patients, a few words on the subject may not be out of place. Thus expressed the subject seems simple enough. The practical application of these rules will depend, however, upon their interpretation, and in any doubtful case this will be effected by processes of law, which are by no means simple. The question as to whether any given act or series of acts does or does not prove malpractice is a composite of law aud fact, and as such it must be determined by the jury. In determining it, however, the jury is guided by the principles of law as laid down by the presiding judge. While, therefore, we cannot estimate the weight which a jury will attach to any particular evidence in a given case, we can form some idea of the probable outcome by applying the principles of law as they have been laid down in adjudicated cases, and as they will, therefore, until altered by statute, be laid down in such cases as may occur hereafter. Before doing so, however, two points of practical importance may be considered with advantage. The physician is neither bound to cure his patient nor to be infallible in his judgment. If he has used ordinary knowledge and skill, and due diligence, in the formation of his judgment as to the nature of the disease or injury, and in determining the course of treatment, he is not guilty of malpractice even though it should be discovered later that such judgment has been erroneous and that the patient has been injured as the

result of the error. Nor if the diagnosis and treatment be correct, and ordinary knowledge and skill, and due diligence, have been used in the methods adopted in connection therewith, is the physician liable although injury and even death has resulted from the measures adopted. It has been deemed best to make this statement at the present juncture because it serves to emphasize the importance of definite principles of law by which the jury shall be guided in determining what is ordinary knowledge and skill, and what due care, in any particular case.

The terms "ordinary knowledge and skill" and "due care" have been judicially construed to mean not such knowledge, skill, and care as are possessed and exercised by the most thoroughly educated, nor yet that exercised by the moderately educated, nor merely by the well educated, but the average of the thorough, the well, and the moderate. This is the gauge by which methods of practice in any particular case are to be measured to determine their quality, whether good or bad. It is not, however, an absolute guide but shifts its standard with time and place, and with the nature of the case under consideration. The practitioner must keep abreast of recognized advances in medical practice and make use of them as soon as they may be regarded as having been established. He who first adopts a new method of diagnosis or treatment does so at his own peril, and if made defendant in a malpractice suit must be prepared to show that the injury complained of did not result from his departure from established rules, or to justify the judgment which led him to make such departure. He who pursues a course which has been generally abandoned may have to prove that harm has not come from it, or that his judgment, though defective, was formed neither ignorantly nor carelessly. And the rule is the same whether applied to a charity case or to one to which service is rendered for a consideration. The standard of knowledge, skill, and care varies, too, with the locality. The work of a practitioner in an isolated mountain town in the west would be judged by the average practice adopted in other communities similarly situated, and not by the average of New York, Chicago, Philadelphia, or Washington city. It differs also with the nature of the case under treatment; the more grave the disease or injury, the greater the knowledge, skill, and care which must be exercised by the medical attendant.

The duty of the physician extends to every detail of the case. He must make visits as frequently and at such hours as may be necessary for its proper supervision, and he must determine when he can safely discontinue them. He must make such examinations, perform such operations, and prescibe such drugs and other remedial agencies as he deems proper. He must give such directions that his patient may know what is expected of him, that is, instructions as to rest, exercise, diet, bathing, and sleep—and such instructions must cover the duration of the illness after the physician has discontinued his visits as well as the period of actual attendance. If he undertakes an operation it is his duty to see that the instruments which he uses are such as are suited to the purpose, and that they are in proper condition for the use to which they are to be put. If he supplies drugs he must know that they are suited for the purpose for which they are used. He is bound to see that by bringing into the sick room contagious disease or infec-

tion of any sort, he himself is not the medium of injury to his patient. And in all of these things he must exercise ordinary knowledge and skill, and due care. The law does not, however, favor any particular system of medicine, and a practitioner is to be judged by the standard of that system which he professes to practice. If the physician provides his own assistants, either medical men or nurses, he is responsible for their acts, and if he is practicing as a partner in a firm he is liable for any injury which may happen through the shortcomings of any of the partners.

The liability of the physician is involved, too, in the matter of professional confidences. It may be said generally that he has no right to disclose matters which have come to his knowledge in the course of his professional employment. The only exceptions of this rule arise when he is specifically required by law to make such disclosures. He is liable for any injury which has resulted from any violation of professional confidence except such as are thus required, whether such disclosures be made in words or by the unauthorized introduction of others into the sick-room.

But the obligations of physician and patient are mutual. The physician, as we have seen, must make all necessary examinations; the patient must permit such examinations to be made. The physician must prescribe remedies; the patient must take such remedies. The physician must give directions as to diet and certain other particulars; the patient must follow such directions. Neglect on the part of the patient to cooperate to the best of his ability with all reasonable requirements of the physician may wholly or in part relieve the doctor from responsibility for any bad result which may ensue even though he has not been entirely free from blame.

We saw at the beginning that the elements of malpractice were breach of duty, and injury resulting therefrom. The former we have considered. The latter from a legal standpoint is not less important. From a medical point of view a given line of treatment may be bad although by chance or by subsequent good management the patient has escaped injury. It is evident, however, that unless the patient has suffered damage he has no claim which can properly come before a court of law, and that legally an action for malpractice cannot arise in the absence of injury growing out of the bad treatment. Injury of which the law will take cognizance may be: "(1) Loss of time and labor arising from the injury sustained by the malpractice; (2) the reasonable expenses incurred for surgical, medical, and other attendance; (3) diminished capacity to work at the trade or business of the injured party in consequence thereof; and (4) bodily pain and mental anguish in consequence thereof." (Hamilton's System of Legal Medicine, Vol. II., page 582.) One or more of these the patient must prove in order to sustain his claim. Future suffering and disability may be considered in estimating the amount of the damage sustained and if there be evidence of malice, fraud, or gross neglect or ignorance the jury may award punitive damages—that is, give damages in excess of the estimated injury as a sort of punishment.

When the case has come to trial the plaintiff must prove by preponderance of evidence that the physician defendant has through ignorant, unskillful, or negligent treatment caused him some definite injury. Not until he has made out a prima facie case is it necessary for

the physician to offer any defence. But should such a case be shown, the defendant must disprove it. This he may do either by showing that the treatment which he employed was right and proper ; or that the patient has not been injured ; or that such injury as has been received did not result from any default on the part of the physician or on the part of his assistants, but was the inevitable outcome of the disease or injury or resulted from some act or acts on the part of the patient or on the part of nurses or others called in by the patient to assist in the management of the case. If the physician can show that the injury complained of resulted from the neglect of the patient, he is relieved from responsibility. If though some injury has arisen from such neglect, it can be separated from that for which the physician is responsible, the medical attendant may be held liable for such injury as he has caused, but if it cannot be so separated the patient himself must bear the entire loss. The physician is not allowed to introduce evidence to show his professional standing, nor to prove what his success has been in other similar cases, for the question to be determined is not what was done with reference to some one else, but whether he has exercised ordinary care and skill, and due diligence in the treatment of the case under consideration. Expert testimony may be admitted.

Thus far we have considered only civil malpractice, the breach of the duty which the physician owes to his patient. But the State has an interest in the welfare of every citizen and when the ignorance or neglect of the physician has passed a certain point, and the character of the resulting injury has reached a certain degree of severity, the community as such demands the punishment of the offending party. So long as the injury has grown out of some more or less inadvertent omission of duty the criminal law will not intervene. But when by reason of gross ignorance or gross neglect a citizen suffers death or even severe injury, the physician, or he who has assumed to act as such, is amenable to the criminal law ; if death has resulted he may be punished for manslaughter ; if the injury has not caused death he may be punished for a misdemeanor. And if the death result from some unlawful act on the part of a physician, as by inducing an abortion under circumstances under which the law will not justify it, he may be punished for manslaughter without reference to the degree of knowledge, skill, or care which he has used. If a person assume to act as physician in violation of law, and death result from his treatment of any particular case, he, too, is liable to be punished for manslaughter without reference to the degree of care or skill which he employed. The good intentions of the physician or of the person who has assumed to so act will afford no excuse. On the other hand, if it can be shown that there was intent that death should result, or if circumstances were such that an intent could be properly inferred, the guilty party may even have to suffer the penalty for murder. The aim of the law with reference to criminal malpractice is punishment ; its aim with reference to civil malpractice is compensation. There is no reason why both should not exist together, and accordingly we find that a conviction of criminal malpractice and even punishment therefor will not prevent the recovery of damages in a civil action, nor vice versa.

What redress has the physician who has been made the defendant in a mal-

practice suit, civil or criminal, and who has made a successful defense? He has lost reputation and patients, time and money; he has suffered incalculable annoyance and worry; in a civil case he is liable for certain court charges, and in any case he has his attorney's fees to pay; in a criminal case he has been compelled to give bail or to remain in prison. Has he no remedy? If we answer, "No," we shall be not far from right in a practical way, whatever the theory of the law may be. In civil proceedings judgment in favor of the defendant will relieve him, in most cases, of liability for the court charges, and nothing more. If he has been acquitted upon a criminal charge he may institute suit for malicious prosecution, against the party or parties who originated the proceedings against him; but in order to maintain his claim he must show that such proceedings were begun without probable cause and that the motive therefor was malice, and the chances are all in favor of the defendant. Even if the physician succeeds in establishing his case, he is only too apt to find that the party against whom he has secured judgment has no property with which it can be satisfied, and that he has only added the trouble and expense of his suit to the sum total of his loss. If the proceedings against him have been civil instead of criminal it is doubtful whether even this remedy, if remedy it can be called, suit for malicious prosecution, is open to him.

To sum up: Malpractice from a medical standpoint means such practice on the part of the physician as does not conform to certain standards and which results in the injury of the patient. It may be either civil malpractice or criminal malpractice. Civil malpractice may be the result of ordinary ignorance or neglect; criminal malpractice is the result of intent, or of gross ignorance or neglect. The minimum of knowledge, skill, and care allowed by law is the average knowledge, skill, and care employed by physicians generally, at the same time, and in the same and similar localities. For civil malpractice the physician must answer in damages to the patient. He will not be liable unless the plaintiff shows that he has been injured by the alleged malpractice, and after a prima facie case has been made out against him, the defendant may show that the treatment which he adopted was proper or that the alleged injury did not result from it. If the injury complained of be due to the failure of the patient to follow the instructions of the physician, the latter will be relieved, in whole or in part, of liability. For criminal malpractice the responsible party is liable to the State for punishment by fine or imprisonment, or both, and good intent is no defence. If the physician be acquited of a charge of criminal malpractice he may, in an action for malicious prosecution, recover damages from the responsible party if he can show that the charge was made without probable cause and through malice. If in a civil proceeding judgment be rendered in his favor, he will be relieved from liability for the court charges, but whether he can maintain an action for malicious prosecution is doubtful.

DISCUSSION.

Dr. D. S. LAMB said that he understood from the Medical Journals that in one or more places in England, societies had been formed among physicians for the purpose of protecting their members against unjust suits. A Committee is appointed to examine into the merits of each case, and if it is found that the plaintiff has no just cause for action,

the Societies' attorneys contest the case, the expenses being met by the Society itself.

An important point was decided, in this connection, in the case of Walsh vs. Sayre. Walsh sued Sayre for certain injuries claimed to have been done his child in an operation performed by the defendant; he further claimed that the effects of the injuries were permanent, and that disability still persisted. The defence petitioned the Court to appoint a Committee to examine the child to ascertain whether the facts as to his present condition were as stated. The defence for a long time was unable to obtain the permission, the point being raised as to the authority of the Court to appoint such a Committee. One was finally appointed however and he believed that this was the first case of its kind in New York City. Dr. Sayre won his case, the Committee not finding the condition of the child as represented by the plaintiff.

Dr. WARD said he thought the essayist had made quite a new departure in entitling his paper "An Outline of the Principles of Malpractice from a Medical and Surgical Standpoint." If any practice is wanting in principles or foundation of truths, it is malpractice. Indeed, malpractice is such because it is devoid of principles, and is devoid of principles because it is malpractice. Malpractice has its malversations, but it cannot be said that it has any principles, either from a medical and surgical, or indeed a legal aspect. There may be however, legal principles involved in both the prosecution and defence of a case of malpractice, but those principles are in no sense applicable to malpractice. The misconception, he thought, was due to an oversight, rather than an intention, or to a flight of the imagination, rather than a deliberate judgment, and resulted probably, from a hasty preparation of the paper, which, judging from the subject matter, should have been entitled, "Malpractice from a Medico-legal Standpoint."

Dr. DYE asked Dr. Woodward whether there was anything in the Statutes of Limitations, fixing the time within which a suit must be brought for a given injury. The question was suggested to him by the following case:

A physician, a friend, treated a little girl for a fracture of the elbow. Suit was brought against him for malpractice, eight or ten years after—he was not able to recall the exact time—and the physician was compelled to settle.

Dr. WOODWARD, in reply, said that the law as to this point differs in different States. There are, however, in most States, Statutes of Limitations, limiting the time within which a suit must be brought.

Dr. BALLOCH inquired whether there are not in some States, statutes requiring the filing of a bond with the suit, which would indemnify the physician if the suit proves to have been brought without just cause.

Dr. WOODWARD replied that he could not speak for the law upon this point in the various States. Ordinarily, however, when a bond is required, its object was to secure the payment of costs.

Dr. BEHREND inquired whether a previous agreement between the patient and physician, by the terms of which the latter was not to be held responsible for the results of his treatment, would exempt the physician from liability to damage for malpractice.

Dr. WOODWARD, replied that as a general rule, the physician could not free himself from responsibility in any such way. It was regarded as contrary to public policy to permit him to do so.

Dr. WOODWARD, in closing the discussion, said that he agreed to a certain extent with Dr. Ward in his criticism of the name of his paper. It was difficult however, to find a more accurate title. The subject of malpractice had not been considered from a legal standpoint, as that would have involved a consideration of it in its bearings upon all classes, and physicians merely as one of them. Neither did the paper undertake to deal with the subject from the standpoint of the legal adviser and his client, nor the dentist and his patient, but was limited to malpractice as related

to the practice of medicine, and its title was framed accordingly.

The Sayre case, to which Dr. Lamb referred, was interesting not only because it was the first case of the kind in which the right of the defendant to secure an examination by experts, of the body of the plaiutiff, had been admitted, but also because Dr. Sayre was awarded judgment against the plaintiff to the amount of 5 per cent of the sum claimed by him—the plaintiff—$20,000 in addition to his usual costs.

Mr. G. E. Gordon read a paper "The Establishment of a Milk Laboratory in this City."

(Not received for publication.)

DISCUSSION.

Dr. A. F. A. KING asked Mr. Gordon what he meant by "modified milk."

Mr. GORDON, in reply, said that the name had come into use with the establishment of milk laboratories. It was formerly applied to milk which had been altered by the laboratory according to a fixed formula. Nowadays, however, the term is used to include much more, and is applied to milk which is altered at the laboratory according to each physicians orders. The term will be dropped. "Prescription feeding" more properly conveys the idea.

Dr. A. F. A. KING asked Mr. Gordon how he would dilute milk which contained too small a proportion of water.

Mr. GORDON replied that one way is by using whey ; another, by the use of distilled water ; another, by the cereal waters—barley water, etc.

If it were desired that the milk should be made richer, fat, proteids, or sugar would be added. As a rule, however, it is desired lighter in character, especially in proteids, and this is accomplished by dilution, which is done with greatest accuracy. Loosely the term "modified milk" is now sometimes applied to foods which contain no milk at all.

Dr. KING said that Mr. Gordon had remarked that the milk from his laboratory had been sent abroad, and after weeks had been found as good as when first put up. How was this accomplished, by the use of ice, or sterile cans, or how ?

MR. GORDON replied that there were several reasons why the milk from his laboratory could be kept in good condition so long. In the first place, the milk itself was fairly sterile. It contained only 60 to 150 bacteria to the c.c., which was very low. It was never, however, absolutely sterile. In the second place, it was put up in a sterile manner. It was poured into sterile cans, sealed with sterilized paraffin, and this was covered with tin foil. Packed thus, it changes some, but not so that any physician could detect it. Upon its being examined microscopically on the other side, no more bacteria were found than before it was packed—the last pint was as good as the first.

Dr. KING asked whether lightning affected it.

Mr. GORDON replied that electricity itself does not hurt it—he had tried passing electricity through the milk with no result. What does spoil milk is not the electricity itself, but the atmospherical conditions which accompany thunderstorms. These conditions are those under which bacteria multiply very rapidly. Upon September 6th, last, these conditions were present in New England, and the heaviest thunderstorms occurred which he had ever known. It was observed at that time, that the bacteria in the milk multiplied most rapidly, in some of the milk outside of the dairy, the number doubled every 20 minutes, until their number reached the millions.

Dr. J. TABER JOHNSON asked Mr Gordon to describe the diet of the cows, which were referred to as giving milk much more digestible than that of other cows. Also, how were the urine, and droppings managed—so that the air and interior of the dairy remained practically sterile.

Mr. GORDON replied that the droppings were removed from the barns by trolley to a spot 340 feet away, practically as soon as they appeared. The urine was drained away under 5 or 6

inches of kiln-dried shavings. These were obtained from the Standard Oil Company, and were made so rapidly as to render them practically sterile. He had never been able to obtain cultures from the air in the barns in which they were used. The cows stood upon a floor of artificial stone, which was washed down most carefully. They are groomed twice daily, wiped, and curried dry. They are fed after milking. The woodwork of the barns is sponged twice daily, thus removing all dust, and practically all dangerous bacteria.

Breeding is done in a continuous way. The cows are kept 6 to 8 years. The mothers are retained and fed in the modern way. The country is searched for the best hays to be found, and the best grades of grain are obtained from Duluth. Almost all of the feed is bought, little being grown for the cows on the farm itself. No chemical, or fermented by-products are used. They receive the best old cornmeal and oats. The proportion of each ingredient is such as to make the best uniform ration—1 part of nitrogenous to 5 parts of carbohydrate food. Water is served in individual iron pails, which are boiled weekly. The water is regularly tested and inspected, and the wells are carefully guarded against infection. In summer, the cows are given green food—peas, green corn, fresh grasses, etc. They are given no weeds, and are never allowed to roam at large in the pasture.

It is a rule never to keep a cow which cannot raise its own calf. Each cow must be in perfect health. Large globule milks are excluded, as also are those containing colostrum or pus cells. As regards the kinds of cows kept to furnish milk, they are principally Holsteins, Durhams, and Shorthorns,—not Jerseys, as no child can properly digest milk from the Jersey; it is a large globule milk.

Dr. S. S. ADAMS inquired how long it was customary to milk cows which were with calf: and what kind of exercise did they receive. Mr. Gordon replied that they were milked up to the beginning of the 7th month. Their regular exercise consisted of a slow drive in the lanes or fields near the dairy. In bad weather, they were kept in the barnyard.

Dr. WARD inquired how many times daily the cows were milked, and whether the milk in the udder did not undergo change after remaining there over 12 hours. Mr. Gordon replied that the cows were milked twice daily. The milk does not remain in the udder long enough to undergo any appreciable change. It is not until the nervous agitation produced by the milker's fingers arises, that the milk enters the udder. Where it does stay, he did not know. He had never been able to obtain by incision from the udder, a quart of milk.

Dr. KOBER said that he had been much interested in the statements made by Mr. Gerdon, but he was surprised to learn that they could produce a milk—nonsterile,—which contained as small a number of bacteria as 60 to 150 per c.c., and that the milk could be sent to Europe and be found practically sterile at the end of 23 days. This statement was even more remarkable in view of the advertisement of the Walker-Gordon Laboratory published in the Philadelphia *Medical Journal*, according to which there have been but few days in which the number of bacteria was as low as this. Indeed, the average number given exceeded 2,000 to 3,000, and sometimes 200,000 per c.c. Hence, he thought that Mr. Gordon was promising too much.

The necessity for a pure milk supply was recognized in this city a few years ago, and a gentleman commenced furnishing sanitary milk. Mr. Gordon has emphasized the necessity of exercising great caution in the care of the cows, barns, men, milking, etc. Just such a farm was instituted here two years ago, under the supervision of a committee of the Medical Society and was conducted for some time without profit. Nevertheless, the individual referred to, persevered and has furnished a superior quality of milk.

According to the results of Dr. de Schweinitz' examinations, the average number of bacteria in the sanitary milk produced by the Pasteur Milk Company

referred to is less than that shown in the reports of the Pepper Laboratory concerning the Walker-Gordon milk at Philadelphia. In justice to home industry therefore, he would say that such a laboratory as that described this evening already exists in this city; and it is our duty, out of a feeling of loyalty for home industry, and appreciation of the originators, efforts, and our own, to consider well before we give undue promise of our support to the proposed establishment. He knew of no reason for feeling disappointed at the results obtained at the present laboratory, and when Dr. de Schweinitz finds that the average number of bacteria in the sanitary milk is less than that in the product of the Walker-Gordon laboratory, he felt certain that the quality of milk, and degree of cleanliness and care observed at the dairy cannot be excelled by the proposed establishment.

Dr. S. S. Adams said that inasmuch as he was associated with Dr. Kober and Dr. de Schweinitz upon the committee for the management of the Sanitary Milk Laboratory, and as he was instrumental in Mr. Gordon's addressing the Society upon the subject of the proposed laboratory, he felt it his duty to say something with regard to the remarks that had been made.

He was as loyal to the dairy as any other member of the Committee, but he did not propose to be bound to limit his support to any one establishment of the kind. He would support the Laboratory and also one to which the physician may send prescriptions for milk to contain the proportionate amounts of the ingredients which he may wish for each individual case. Mr. Gordon had asked him whether it would be possible for him to purchase the laboratory already here. He proposed to give his support to both laboratories, and he believed that physicians in this city had need of both.

Mr. Gordon said that he was glad to hear that such a laboratory as Mr. Walker and he proposed to establish in Washington, already existed here. They did not expect to have a monopoly of the business, but welcomed competition. In fact, their establishments had been able to help others in other cities. They published their results, as they wished the public to know what they were doing.

The 150 to 200 bacteria per c.c. which he had mentioned was found only in milk especially prepared for ocean voyages. The practical every day milk was not much better than that of the Philadelphia farm, whose results were published. He knew that occasionally the number of bacteria in the milk ran up to 200,000 per c.c. or even higher. He had no explanation to make for this, and offered no apology; nor did he ask for a suppression of the report, as it is a lesson taught from their work. He did not feel it necessary to say that milk was not furnished upon such days: unless it came within a certain range of purity, it was not served. The public would not find their establishment undervaluing or undermining the work of any other laboratory. He proposed to reside in Baltimore or Washington, and personally superintend the laboratory.

Meeting of October 18, 1899.

Dr S. C. Busey, President, in the Chair.

Upon motion of Dr. Acker, the Society authorized the treasurer to pay a bill of $15.00 to the Home Magazine Company.

Dr. Bovée, Chairman of the Committee upon Joint Meetings of the Medical and Chemical Societies, stated that a meeting of the two Societies would be held in the latter part of December.

Upon motion of Dr. W. B. French, the Corresponding Secretary was directed to reply to a letter from the Mississippi Valley Medical Association to the effect, that this Society would be pleased to exchange Transactions with them.

Dr. Busey explained that the Chair, in entertaining Dr. Adams' motion two weeks ago, made a grave mistake. The motion should have been decided out of order, as the Society has no right to

admit a layman to discuss commercial questions before it. He did not wish to criticise what had been said, but made the explanation in order that his action might not be taken as a precedent in the future.

Dr. Prentiss read papers upon the subjects: "Three Cases of Paraldehyde Habit;" "Three Cases of Administration of Formaldehyde by Mistake."

(The papers have not been received for publication.)

DISCUSSION.

Dr. FRANCIS P. MORGAN said that the case referred to by Dr. Prentiss, in which formaldehyde had been taken by mistake, was that of a woman about 40 years of age, who suffered from nervous insomnia. He had prescribed for her a mixture containing paraldehyde in elixir of orange, the dose of the hypnotic being one teaspoonful, which was to be taken at bedtime, and repeated in an hour if the patient was not asleep. She called at his office the following morning, and stated that the first dose had caused a terrible stinging and burning sensation and immediate vomiting. The stomach having been emptied of the offending substance, the symptoms of irritation quickly subsided. The patient recognized that a mistake had been made. She brought the bottle containing the supposed paraldehyde with her, and the sensation produced in the mouth after tasting it was not to be forgotten. It was as if a red-hot iron had been put into the mouth, without, however, any destructive effect upon the tissue; for when the mouth had been rinsed out, no irritation remained. The reason for the prompt emesis caused by the drug was at once apparent, and this undoubtedly saved the patient much suffering.

He took the bottle to the pharmacist who had put up the prescription, one of the first in the city, but while he admitted the mistake, he offered no explanation as to how it occurred. Afterward it was ascertained that the bottles containing formaldehyde and paraldehyde are usually placed near together—or side by side as in one case in which the mistake above reported was made—and they are very similar in appearance. This, in addition to the fact that the pharmacist frequently dispenses formaldehyde, and paraldehyde but rarely, is the most probable explanation of the mistake. In view of the fact that at least three such errors have been made, he thought it well to underscore the *par*—or otherwise call the druggists' attention to it—although such mistakes are wholly inexcusable.

Dr. FRIEDRICH said that he had had no experience with the paraldehyde habit, but he had prescribed the drug for insomnia, and in one case, undoubtedly through the same mistake described by Dr. Prentiss, the patient received formaldehyde. He was sent for in the middle of the night, and found the man suffering so acutely that he thought he would go into mania. He gave the patient a hypodermic, and used other means to quiet him, and finally succeeded. Later, the man attempted suicide, and was finally sent to St. Elizabeth, where he is still confined, and in his lucid intervals begs not to be given that hot medicine.

Dr. PRENTISS inquired whether any member present had seen a case of paraldehyde habit; he could find no reference to it in any of the text-books.

Dr. BUSEY said that he was not surprised that one having taken a dose of paraldehyde should not care to take another. It was one of the worst tasting medicines he knew of, and according to his experience, not of much value.

Dr. ACKER said that he had once attended a lady and her husband, both of whom took very large doses of paraldehyde each night. It was taken in one to two ounce doses. He knew that they had kept this up during his attendance lasting two or three months. It produced no perceptible bad effect.

Dr. PRENTISS, in closing the discussion, said that the hysterical manifestations in the case he had reported, were very interesting on account of the variety of the symptoms and their identity with the typical hysterical convulsions as de-

scribed by Charcot. An attack would commence with a stiffening and drawing up of the muscles of the extremities, which would be followed by clonic convulsive movements, and opisthotonos. The patient was apparently in great distress and her family were much wrought up. As soon however, as she found that little attention was paid to these attacks, they became less severe.

He asked a prominent physician of this city to see the patient in consultation. Before the visit he impressed upon the patient that she must have one of her "attacks" when the doctor came, as he could do her no good unless he saw her in one of them. They went the next day, and true to her instructions, she went into an attack of convulsions not three minutes after they entered the room. The convulsions were purely hysterical, and this incident illustrates the influence of suggestion in these cases.

THREE CASES OF GENERAL CONVULSIONS IN TYPHOID FEVER.

By Thomas Ash Claytor, M. D.

During August and September of 1898, three cases of enteric fever came under my care which presented unusual nervous phenomena. All three of the patients were soldiers, two in the regular and one in the volunteer service. The two regulars were among the fever cases in my charge at the United States General Hospital in Key West, Florida. The volunteer I found in my wards at the Garfield Hospital, on my return from the South. He was, at the time of his convulsive attacks, in charge of Dr. J. Dudley Morgan, who kindly performed my hospital duty during my absence.

The majority of text-books make but little mention of this alarming complication, except to say that it is very unusual, and I have been able to find but few cases reported. The rarity of general convulsions in typhoid fever can be fully appreciated when we learn from Murchison's Classic "Treatise on the Continued Fevers of Great Britain," that of 2,960 cases of enteric fever admitted into the London Fever Hospital in eight years (1862-9) convulsions occurred in only six, or once in 493 cases.

Case No. 1.—C. R., Aet. 26, Private in the United States Army, was admitted to the United States General Hospital at Key West, Florida, July 5, 1898, suffering from an attack of typhoid fever. R. had been taken sick immediately after reaching Cuba, about the middle of June, with headache, nausea, diarrhœa, cramps, epistaxis, etc. As nearly as could be estimated the patient was admitted on the 20th day of the disease. His temperature did not reach the normal until the 36th day; in the meantime the range was quite high, on several occasions falling but little short of 106° F. He was at times delirious, had involuntary movements and showed generally the symptoms of enteric fever in a severe form. As the fever subsided numerous large abscesses appeared upon the chest, abdomen, thighs and legs. These were freely incised as rapidly as discovered and the patient seemed on the road to recovery, when upon the 34th day of his illness, the temperature having been on the decline for nearly a week, the following attack was observed. While apparently asleep he uttered a sharp cry, threw up his hands and went into a slight general convulsion. The eyes were fixed and glassy; there was slight frothing at the mouth for a few seconds. He was unconscious and remained so for about ten minutes. On his return to

consciousness his mind was clear and he said he felt as though he had been dreaming.

The temperature, at this time, was ranging from nearly normal, in the morning to about 100° or 101° in the evening and showed no change on the day of the first convulsion. Nothing further of an unusual character occurred until the 50th day of the disease, sixteen days later, when there was a second and much more serious seizure. While sitting up in bed eating his supper (convalescence having been established) he suddenly uttered a sharp cry, threw up his hands, fell over on his right side and went into general clonic convulsions.

The head was drawn back and moved from side to side, there were spasmodic movements of the face, arms and legs with frothing at the mouth, but no biting of the tongue. The convulsive movements were followed by a stage of rigidity with the head and shoulders bent forward. In from 12 to 15 minutes the left forearm was flexed and turned posteriorly, then both hands were raised to the head, this was followed by very slow convulsive movements of all the extremities, grinding of the teeth and drawing of the face toward the left. The eyes were rolled upward, the pupils equal and contracted at first, but later (in half an hour) becoming dilated. The eyes were glazed, the temperature normal, the pulse weak at first, but soon becoming stronger, the reflexes were found to be present and there was no paralysis. After the first few moments the convulsive movements were confined almost exclusively to the upper extremities and face and gradually ceased altogether. The patient lay upon his right side with head and shoulders bent forward, legs and thighs flexed. Any attempt to change the position during the night, at once caused a return of the spasms.

The following morning, August 5th his condition was critical. The temperature had risen to 103.2° F., the pulse was frequent and the respirations very slow, about sixteen to the minute, the eyes glazed and expressionless. Physical examination showed nothing of interest. The urinary analysis, at this time, as at all others, showed no albumen casts nor sugar. As unconsciousness was complete and the jaws set it was found necessary to resort to the stomach tube, passed through the nose, as a means by which to nourish the patient, enemata being ejected at once. At 9 p. m., the temperature began to fall reaching 100 by 10 a. m., on the morning of the 6th. The condition remained about the same until 2.45 p. m. August 6th, nearly 46 hours from its onset, when he became conscious. He seemed much alarmed, tried to get out of bed and made efforts to speak, but articulation was difficult. By the morning of the 7th his temperature was normal and his mind was fairly clear, though he had no recollection of what had occurred. He did not fully regain his mental balance for two weeks, but went on finally to a complete recovery of mind and body.

Case No. 2.—M. W., Aet. 24, Private U. S. Army, was admitted to the U. S. General Hospital at Key West, July 5, 1898, suffering from a slight wound. On July 12, he developed fever, which proved to be enteric. The attack, though slow in its onset, was very severe, presenting grave symptoms, such as hyperpyrexia, hemorrhages, etc. When the fever had continued for about 27 days, the following nervous phenomena occurred :

At 10 p. m., August 8th, the patient became unconscious and there was a slight general clonic convulsion. The eyelids were closed, the pupils dilated, the breathing was slow (four to the minute) and irregular. As his temperature was 103.8° F., he was given a plunge bath, (the water at 75° F.) which reduced the temperature to 101.8° F. and restored consciousness. At 11 p. m. he again became unconscious, remaining so until the following morning. During this time the eyes were wide open and staring (the reflexes abolished) the jaw firmly set, the tongue in constant motion, the respirations frequent and shallow. For a week following the above attack the patient was desperately ill. He had several hemorrhages and the temperatnre range was high, but there was no delirium. Up to the occurrence of hemorrhage fifty tub baths were given. This patient recovered.

Case No. 3.—C. M. (Hosp. No. 8878) United States Volunteers., Aet. 27 ? was admitted to the Garfield Hospital August 5th, suffering from enteric fever of about a week's duration. The attack including three intercurrent relapses lasted nearly three months and was of moderate severity. During the first three weeks of his stay at the hospital the temperature range was, at times, quite high, but he showed no serious symptoms until August 30th, when he became delirious and very restless. On the 31st the delirium was more marked though the temperature was declining, the highest record on that date being 102 F. at 6 p. m. At 3 a. m., September 1st the following seizure was noticed:

The patient became very delirious, talking continuously and trying to get out of bed. There then occurred marked jerking of the limbs, the head was strongly retracted until it touched his back, the eyes were open and the pupils dilated; the respirations were labored and loud; the pulse continued fairly strong. The attack lasted ten minutes leaving him in a profuse sweat. The temperature at 6 a. m., was 97° F., pulse 108. At 9.30 of the same morning, there was a second seizure. The patient gave a cry and went into general clonic convulsions, the head was drawn back slightly, and there was foaming at the mouth with loss of consciousness. In three minutes the movements ceased but the unconscious state continued until 10 a. m., half an hour later, when he became conscious. At noon, the temperature was 98.8°, pulse 112. At 3.15 p. m., convulsive movements lasting three minutes, were again noted with unconsciousness and involuntary passage of urine. At 4. p. m., the temperature was 101.2, pulse 120.

The amount of urine secreted on September 1st was scanty and had been for two days. The analysis showed a reduction of the urea to about one-fifth of the normal, but neither albumin nor casts were found. Previous examinations had also been negative as to albumin and casts.

Cups were applied over the kidneys and other means taken to encourage the urinary secretion. The next morning the patient was rational, his condition much improved. He had no further epileptiform attacks, nor was he again delirious. During the following few days there was only moderate fever which gradually declined, leading to the hope that convalescence was to be established, there were, however, two recurrences and the fever did not disappear, permanently, until four weeks later. The subsequent history shows nothing worthy of note. The patient recovered.

The pathological findings in cases which have shown convulsions during the course of typhoid fever have been somewhat varied; Liebermeister (Ziemssen's Cyclopædia of Medicine) states that he found striking œdema of the brain in two cases of general convulsions. Osler (Johns Hopkins Hospital Reports, Vol. v.) reports an interesting case of very mild typhoid fever in a young man twenty-two years old, who developed severe convulsions on the ninth day. The convulsions continued, at intervals, until death, ten hours after their onset. The autopsy showed thrombosis of the left middle cerebral artery. The fact that this was the first case of convulsions as a complication of typhoid fever seen by Osler, is an indication of the rarity of the condition. (He has since reported a second). (Practice of Medicine 3rd Ed.).

J. W. Moore (Trans. Royal Acad. of Med. Ireland, Vol. xi, 1893) reports a case in which the autopsy revealed neither brain nor kidney lesion. Of Murchison's six cases (Loc. Cit.) two died. One showed extensive renal disease. There was no post-mortem upon the other.

Since general convulsions are so rare in the course of enteric fever, I have sought for an explanation of their occurrence in my three cases. That these men were subject to epilepsy does not appear possible, as they were soldiers, two of them privates in the regular army; besides, in epilepsy, the fits usually cease during an attack of typhoid fever.

Uræmia, I think, may be excluded, at least, in cases one and two, as the urinary analyses were, at all times, found to be negative. In case No. 3, the urea was considerably reduced on the day of the convulsions and the urine was small in amount, but neither albumen nor casts were found. All three of the patients were taking strychnia, but the symptoms were not those of poisoning by that drug. Meningitis and encephalitis may be excluded because of the subsequent symptoms, or rather absence of symptoms.

In case No. 1 the severity and long duration of the mental symptoms are to me a strong indication of some decided intracranial disturbance; possibly thrombosis or hemorrhage.

Case No. 2 was of a very nervous temperament and was in constant dread lest his illness should prove fatal.

The convulsions coming as they did, at the height of a severe attack of typhoid, I attributed to the toxic influence of an intense infection, upon nerve centres already exhausted by the strain of his late experience in Cuba, followed so soon by fever. In case No. 3, it will be remembered that there was a reduction in the amount of urine just before the convulsive seizure and that the urea was found to be only one-fifth of the normal when estimated on the day of the attack. It seems possible then that the convulsions may have been toxic, due to faulty action of the kidneys.

DISCUSSION.

Dr. S. S. ADAMS said that the study of the nervous phenomena in typhoid fever was extremely interesting. Those who see many hospital cases, and these are often the worst, are not surprised at any nervous phenomena which may occur. But so far as private practice is concerned, convulsions in typhoid fever is a rare complication. He had met with but two cases and would detail these later.

In the cases reported by Dr. Claytor, two occurred when the disease was at its height, and the other in convalescence. This being so, the cause in the two cases must be different. He believed that when the convulsions occurred in the height of the disease, they were due to bacteria or their products—in other words, to the high temperature which

these bacteria produce. They are analogous to the nervous manifestations of other diseases, particularly malaria, in which convulsions frequently occur during the chill stage in children, and sometimes in adults also. The convulsions are due to hyperpyrexia, and their effects are often serious.

Whether the manifestations of hyperpyrexia take one or another form depends upon the particular susceptibility of each patient. Some children whom he could recall, between two and six years of age, had convulsions regularly when the rectal temperature reached 103 degrees—their nervous susceptibility was great. In adults also, when the convulsions occur in the height of typhoid, hyperpyrexia seems to be the cause, the symptoms simulating those of meningitis.

In one case which he had reported, a child was supposed to have had convulsions due to meningitis. Typhoid was not suspected, but was disclosed at the autopsy—there were no signs of meningitis. The convulsions were clonic, then tonic, with opisthotonos before death. Another case was that of an adult—a servant in one of his families, who had typhoid, and was doing well until her mother arrived to take charge of the case. She took the patient out of bed, and held her in her arms, and while there, the patient had a convulsion. This was followed by intestinal hemorrhage in 6 or 8 hours, and death inside of 24. Whether the convulsions were due to the hemorrhage or not, he did not know.

The cause of convulsions which occur during convalescence is different. Liebermeister mentions two cases which were due to anæmia of the brain—and this he believed to be the exciting cause of the convulsions in these cases.

To sum up then, convulsions in typhoid fever are due to two entirely different causes: those which occur at the height of the disease are the result of hyperpyrexia, which in turn is caused by the presence of bacteria in the body, or to their products. In the second class, in which the convulsions occur during convalescence, the cause is anæmia of the brain.

Dr. W. W. Johnston said that Dr. Claytor's paper was interesting if for no other reason than the rarity of the symptom he describes. Murchison, in his enormous practice in London, covering a period of over 30 years, saw only 12 cases of convulsions occurring in typhoid fever,—6 of them being hospital cases, and 6 in his private practice. Liebermeister saw but 2 cases in Bale. All other authorities agree that the complication is an exceedingly rare one, and it is an interesting fact that Dr. Claytor, within a limited time, should have seen three cases. The experience suggests the thought that perhaps the complication is more common than we are aware of: it may be overlooked, or not recognized. He remembered having seen a few cases similar to those reported. One, the child of a physician, was seized with convulsions near the end of a very severe attack of typhoid fever. Such cases can be better studied in the hospitals than anywhere else, though it is evident that they are rarely seen even there.

As compared with typhus fever, convulsions occur in that disease in 1 out of every 100 cases: in typhoid fever in 1 out of every 493 cases: *i. e.*, they are 5 times more frequent in typhus than in typhoid fever.

When we come to consider the etiology of such convulsions no one cause can be given for all cases, as Dr. Adams has said. Cases have been reported in which parotitis, œdema of the brain, abscess of the ear, meningitis, cerebral hemorrhage or thrombosis, and other lesions have been found, and which presumably are in some way connected with these convulsions. That hyperpyrexia is a cause is doubtful, as we see so many cases in which it exists, and yet there are no convulsions, although the patients sometimes die from the excessively high temperature. Nor is cerebral anæmia the only cause: for while we may see various nervous symptoms due to this cause, convulsions are comparatively rare. Hence it seems likely that many different cerebral lesions may give rise to this complication.

(*Continued to February number.*)

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W. N. POWELL, M. D.,
936 Hamilton St.

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So is Nytroglycerin. It
BREAKS UP ASTHMA
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Combined with Strychnine and Morphine it is the most successful because the most rational physiological treatment of the asthmatic paroxysm.

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Indicated in every condition requiring an action or natural stimulant to tardy internal functions, stomach or intestines.

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Artificial digestive agents, such as pepsins and pre-digested foods, are temporary expedients. In treating chronic dyspeptics

SENG

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Through certain economic causes we have recently suffered from an iron famine. Thousands of great buildings have had to stop midway in the process of building because of the scarcity of structural iron. Every industry was retarded and many even paralyzed because of the lack of iron. These economic conditions will pass away and iron will be in plenty again. Construction will then go actively on as before.

The body needs iron also or else construction will cease. It will be all waste and no repair. Any iron will not do for the up building of the human organism. It must be some form of iron that will not inhibit digestion. It must be assimilable and very assimilable at that, for in the anemic, digestive power is never up to par. Iron which is liberated in the stomach in a nascent condition is the ideal product and therefore it is that Aromatin fulfills all the indications we have mentioned above. Take an illustrative case, one of a hundred.

C. D., male, aged 29, anæmic but of a strong constitution; subject to attacks of dyspepsia and rheumatism. Brother being a physician, has enjoyed many opportunities of trying various tonic preparations, but never has derived permanent benefit from them. Complained of a weak stomach and also of having rheumatism; has been taking salicylate of soda but derived no benefit therefrom. Treatment begun with "Aromatin" October 31, 1899.

1st Blood Examination October 31, 1899, Red Corpuscles 3,631,250 Hæmoglobin 85 per cent.

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Six days after starting to take "Aromatin" his rheumatism left him entirely. He has not had an attack since. At present he feels well, eats fairly well and has a more healthy color.

"The greatest therapeutic discovery of the age, and of the ages, is that where we cannot produce good blood we can introduce it."

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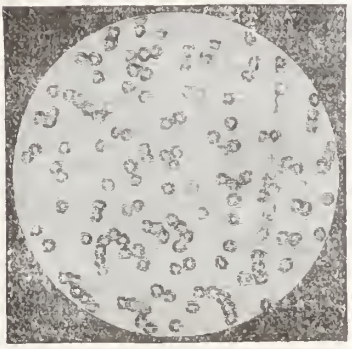
A New Thing—and a New Name which, though literally translated (Blood Treatment), may not convey to every one a definite idea. It is a treatment which consists in opposing to a condition of disease the very power—good and sufficient Blood—that would naturally prevent it, that would still cure it spontaneously, and that actually does cure it spontaneously, wherever the blood-making work of the system is perfectly efficient; and therefore also *will* cure it, if a deficiency of the vital element be supplied from without, under proper medical treatment.

That Blood is such a power as here described, is an undisputed physiological fact. Its transmission from one animated organism to another, for the purpose of supplying a defect in the latter, is the substance of the Blood Treatment; and How to Do this, in different cases, is the form or description of the same. Blood may be taken from a healthy bullock (arterial blood—elaborated with due scientific skill); or it may be obtained in the well-attested living conserve known as bovinine, from any druggist; and may be introduced into the veins of the patient in either of four ways, that may be most suitable to the case. viz.: by the mouth and stomach; by injection, with one-third salt water, high up in the rectum; by hypodermical injection; or by topical application to any accessible lesion.

A Film of Bovinine: Showing the Blood-corpuscles Intact.



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is one of the latest and most wonderful developments of Blood Power—introduced mainly by the mouth, and sometimes also by spraying bovinine into the trachea by an atomizer. Every week of judicious internal blood treatment, with proper medical and hygienic care, has resulted in steady improvement as to all symptoms, with scarcely an instance of check, much less of relapse, until complete apparent cure, and that in the more advanced stages of the disease. As further examples, may be mentioned: Anæmia, Cholera Infantum, Typhoid Fever, Hæmorrhagic Collapse, and many other of the most dangerous and aggravated diseases.

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of no matter how long standing or obstinate and aggravated character, can be cured with certainty—at least, the first instance of failure has yet to be heard of—by constant application of bovinine to the wound with proper surgical treatment and sterilization. Such cases are usually cured in from four to six weeks. So of traumatic injuries of all kinds; carbuncles, fistulas, abscesses, and even gangrene.

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of well known Physicians and Hospitals, where the Power of Supplied Blood is constantly relied on as a cardinal factor in the cure of disease and support of surgery, are at the service of every practitioner who desires to keep up with the progress of his profession, and may readily be obtained (including, of course, the technique and subsidiary treatments pursued) by applying to

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FERALBOID

A PEPTONIZED ALBUMINATE OF IRON.
KEEPS INDEFINITELY.
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which is indicated whenever iron in any form is to be administered.

Put up in tablet form only, coated, 150 tablets in a bottle and in the following combinations:

Feralboid Plain,
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Indicated in

TYPHOID FEVER, RHEUMATISM, LA GRIPPE, PNEUMONIA, HEMICRANIA,

Each fluid dram contains chemically pure: Phenacetine, 1 gr.; Salol, ½ gr; Cit. Caffeine, ½ gr.; Acetanilid, 1½ gr.; Tartaric Acid, ¼ gr.; Soda Bicarb., 1 ½gr. Dose—One teaspoonful every 2 to 4 hours. No Cardiac Depression Following Its Use
ANTIPYRETIC, ANALGESIC, ANODYNE AND ANTALGIC.

FIRWEIN (TILDEN'S)

Useful in

CATARRH, BRONCHITIS, ASTHMA, CHRONIC CYSTITIS, PLEURISY, CONSUMPTION AND ALL DISEASES OF THROAT AND LUNGS.

Each fluid dram contains: Phosphorus 1-100 gr.; Iodine, 1-6 gr.; and Bromine, 1-6 gr Dose—One teaspoonful four times a day

RELIEVES

CHRONIC CYSTITIS.

ELIXIR IODO BROMIDE OF CALCIUM COMP. (TILDEN'S)

THE ALTERATIVE AND BLOOD TONIC PAR EXCELLENCE.

Composed of chemically pure Bromine, Iodine, Chlorine, Calcium, Magnesium, Iron, Sodium, Potassium with Stillingia, Menispermin, Dulcamarin, Rumicin and Conicin. These drugs are not chemically united, but held in a uniform solution by an elegant menstruum, which is a product of the Tilden laboratory.

Prescribed by the foremost men in medical circles in cases of

SYPHILIS, CHANCRES, SCROFULA, ABSCESSES, CARIES AND NECROSED BONE.

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DO NOT INTERFERE WITH OPERATOR'S TOUCH.
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STANDARD SEAMLESS TISSUE FINGER-COTS
Are Thin as Skin and Do Not Obstruct the Sense of Touch. Price, 50c. per Doz.

THE MILLER RUBBER MANUFACTURING CO.,

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Treatment of Night-sweats of Phthisis by Formaldehyd.

The good results of treatment by this drug seen in cases of hyperidrosis and hyperidrosis caused Hirschfeld of Berlin to try its action for phthisical sweats. He now recommends it highly. Because of its power of penetrating the skin he uses an alcoholic solution, as follows:

R Formaldehyd, forty per cent. 2 oz.
Spiritus abs. aa.

M. Sig. External use. Apply on a swab.

Only one part of the body is treated at one sitting; the shoulders and arms, for instance, on the first day, the lower extremities on the day following, and the trunk on the third. From 1 to 2½ drams of the solution is used each time. By following this method toxic absorption and excessive irritation of the ocular and respiratory mucous membrane are alike avoided. If, nevertheless, a fit of coughing should be provoked, the application should be made very rapidly and the part covered at once. Cotton wet with spirits of turpentine can be held in front of the nose and mouth of a sensitive patient. The treatment is not painful, only a momentary burning sensation being produced. Newly formed epidermis, excoriations, and mucous surfaces should, of course, be avoided. The effect of the application lasts from five days to a month, as a rule from one to two weeks. The sweats cease meanwhile, and as no injury is caused by the treatment it can be resumed whenever necessary. *Med. News*, N. Y., 1899, lxxv, 848.

Vapor Massage.

Vapor Massage is rapidly increasing in favor with the Medical Profession as its great value in the treatment of affections of the nose, throat, middle ear, bronchial tubes and lungs is more widely known. Remarkably satisfactory results have been reported by many prominent observers.

Vapor Massage consists in the application of nebulized vapor under pressure with more or less frequent interruptions producing a vibratory effect which acts favorably upon the circulation and other vital processes in the involved areas, just as manual massage acts upon the superficial tissues, besides applying suitable medicinal agents to the mucous membrane.

This very successful method of treatment was first introduced several years since through the invention of an instrument which is known as the Globe Multinebulizer, consisting of a series of nebulizers which communicate with a central storage chamber having a specially constructed valve at its outlet, by means of which the nebulized vapor can be stored under pressure and delivered in a constant or intermittent current at any desired pressure.

Since the value of this method of treatment has been established beyond question, numerous imitations of the original instrument have appeared. As usual, they are of questionable quality, and since success or failure depends very largely upon the reliability of the apparatus used, those who wish to employ this method in their practice, should be careful to select the original device (The Globe Multinebulizer), which possesses many valuable features not found in any of its imitations.

Full information can be had by writing The Globe Manufacturing Co., Battle Creek, Mich.

Fraud Again.

Our attention has been call to the fact that, owing to the extensive demand for certain preparations they are being largely counterfeited, substituted and adulterated, and we would caution physicians against counterfeit Phenacetin, Aristol, Sulfonal, Trional, and other preparations, all the products of, and bearing on the label the name, "Farbenfabriken of Elberfeld Co., 40 Stone Street, New York."

We know that the majority of American physicians are making use of these preparations in their daily practice, and we are glad to urge upon them the necessity of personally informing themselves whether the drug dispensed by their pharmacists is the genuine or some substituted or adulterated article

FOR PAIN—NO MATTER WHAT KIND OR WHERE — IN MAN OR WOMAN
DOCTOR:—SEND US YOUR CARD—YOU'LL NOT REGRET IT!
THE ANTIKAMNIA CHEMICAL COMPANY
ST. LOUIS, U.S.A.

In Metal Case 5 C. C. Capacity.

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Surgical Instruments,

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Particular attention given to Sharpening and Repairs.

SANMETTO FOR GENITO-URINARY DISEASES.

A Scientific Blending of True Santal and Saw Palmetto in a Pleasant Aromatic Vehicle.

A Vitalizing Tonic to the Reproductive System.

SPECIALLY VALUABLE IN
PROSTATIC TROUBLES OF OLD MEN—IRRITABLE BLADDER—
CYSTITIS—URETHRITIS—PRE-SENILITY.

DOSE:—One Teaspoonful Four Times a Day. OD CHEM. CO., NEW YORK.

Sanmetto as an Internal Remedy for Genito-Urinary Conditions.

While fully realizing the superfluity of further testimonials concerning a remedy so well and favorably known to the entire medical profession as is Sanmetto, yet as I possess an extended knowledge of its reliability based on several years' clinical experience and on the treatment of hundreds of cases in which it has proven itself eminently fitted to lighten the cares of the genitro-urinary surgeon, I am perhaps invested with a certain authority which should permit me the privilege of adding my meed of praise. In all the inflammatory conditions of the genito-urinary tract, from the meatus to the pelvis of the kidney, the administration of Sanmetto is invariably beneficial. It not only renders the urine bland and unirritating, but also exerts a specific action on the inflamed tissues, soothing and restoring the tonicity of the parts. Its tonic action on the prostate is of such a nature that it proves of equal advantage in cases of either hyperplasia or of atrophy, and there is no remedy so uniformly successful in the treatment of atonic impotency or pre-senility. I have found it of inestimable service in the preliminary preparation of cases requiring surgical interference, and, combined with salol, use it constantly to secure urinary anti-sepsis. I am fully of the opinion that Sanmetto represents all that could be hoped for or desired as an internal remedy for genito-urinary conditions.

H. R. Weber, M. D., Univ. Md. School of Medicine, 1886, Member Am. Med. Assoc., etc., Chicago, Ill.

Treatment of a Case of Facial Neuralgia.

Bernays (*"Report of a Surgical Clinic"*) cites a peculiarly obstinate case of facial neuralgia with treatment. The patient was a lady aged fifty years, who showed a good family history and whose previous health was also good. The trouble began with a severe neuralgic toothache of her lower right molars, and was paroxysmal at first, but after two months became continuous. The paroxysms generally occurred in the early morning, and entailed much acute suffering. The pain was relieved by biting strongly upon some firm object, but returned immediately when the pressure was removed. The touch of anything cold or hot promptly excited a paroxysm. A moderate heat when sustained produced the opposite effect. In the effort to afford relief four molars were extracted, but without success. The patient strenuously held out against the use of narcotics in any form throughout the entire course of the disease. Antikamnia in ten grain doses (two five-grain tablets) was found efficient as an obtundant, and was relied upon exclusively. Eight weeks after section of the nerve, when the report was written, there had been no return of her former trouble in any degree.—*The Medical News*, [January 13th, 1900.]

Make a Note of This.

It is a matter of common observation that many cases of bronchitis will persist in spite of the continued, varied and judicious use of expectorants. "The cough," says one prominent physician, "hangs on, harasses the patient with its frequency and severity, and is exceedingly liable to recur every winter—to become a regular 'winter cough',—with its sequelæ of emphysema, asthma and, ultimately, dilatation of the right heart."

Dr. Milner Fothergill of London, insisted that cough of this character is due to lack of tone, not only in the general system but in the blood vessels of the bronchioles. This authority demonstrated that the only successful method of treating this form of cough is by means of appropriate systemic and vascular tonic medication. It is particularly in this class of cases that Gray's Glycerine Tonic Comp. has gained a most enviable reputation. This remedy, which is a most palatable and agreeable one, not only has a selective tonic and anti-phlogistic action upon the respiratory mucous membrane, but it removes the ever-present element of systemic depression. The beneficial effects of Gray's Glycerine Tonic Comp. even in rebellious cases, are invariable and most pronounced.

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Maltine

WITH

CREOSOTE.

A number of years ago, when the value of Creosote became fully demonstrated, we began the publication of a formula for the administration of Creosote in Maltine. This formula has been employed successfully by thousands of physicians, and we have been urged over and over again to place such a combination upon the market in order that a uniform and properly prepared product could be had under all circumstances.

"MALTINE with CREOSOTE"

is the most eligible and palatable form in which Creosote can be administered. The vehicle—Maltine Plain—is particularly indicated, by reason of its great food and digestive value, in all conditions in which Creosote is so universally employed.

It will give us pleasure to send, prepaid, samples of

"MALTINE with CREOSOTE"

to any physician in good standing who wishes to satisfy himself of its therapeutic value and elegance.

THE MALTINE COMPANY,

Eighth Ave., 18th and 19th Sts., BROOKLYN, N. Y.

The Treatment of Sore Nipples and Mastitis.

Dr. Rubeska (*Archiv fur Gynakologie*, lviii, 1; *Centralblatt fur Gynakologie*, November 11th) has observed 1,244 cases of sore nipples among 3,152 nursing women in the Prague School for Midwives. His treatment consisted in the application of compresses wet with a three per cent solution of boric acid and covered with gutta-percha tissue. In almost all the cases lactation was continued, the nipple being simply protected with a shield, and in seventy per cent of them the trouble subsided within ten days. Only about one and a half per cent led to the occurrence of mastitis. When that did take place, the nipple was energetically disinfected, compresses wet with a half per cent solution of corrosive sublimate were kept applied to it for two hours, the first milk was drawn by means of the breast pump, and an ice-bag was applied. If the inflammation began with a chill, high fever, and painful infiltration, he immediately injected two or three Pravaz syringefuls of a three per cent solution of carbolic acid into the substance of the breast; if it began with less severity, this was not done unless the pain and fever continued on the second day. In only two cases thus treated did suppuration follow. No harm was done in any case, and the pain is described as not being great.—*N. Y. Med. J.*, 1899, lxx, 853.

A Most Valued Therapeutic Agent.

Dr. G. A. Kirker, of Detroit, Mich., President of the Wayne County Medical Society, says: "I recently prescribed 'Maltine with Creosote' in a case of capillary bronchitis, the results being highly satisfactory. The patient was a male adult who manifested the most aggravating and distressing symptoms. After three weeks' treatment, in which "Maltine and Creosote" was the chief remedy administered, there was marked improvement. All the worst symptoms were abated, a general building up of the whole system followed, and the patient gained steadily in flesh.

"I attribute the good results in this case entirely to 'Maltine with Creosote,' which I consider a most fortunate combination. The preparation should be brought more generally to the attention of the medical profession, and should be accorded a prominent place among our most valued therapeutic agents."

The Topical Treatment of Eczema.

Dr. A. Jarisch, Lecturer at the University, Vienna, says: "Besides softening and removing the products of the disease, fatty substances produce suppleness and pliancy in the dry scaly skin by mere application. Their application is, therefore, indicated in all cases in which, consequent on extensive eczema, the skin has become dry and scurfy, in order to prevent the formation of fissures in the dry epidermis and the increased irritation which usually follows.

"The choice of applications must be made, as a matter of course, with consideration of the enhanced irritability of the skin, and in this respect lanolin will be found to answer best, without addition, except perhaps ten per cent of olive oil to facilitate its rubbing; or it may be used in the form of a ten per cent boric lanolin or a one to two per cent salicylic lanolin ointment etc." *Med. Rev. of Rev.*, N. Y., 1899, v, 731.

Gonorrhoea in the Female.

The most effective antigonorrhœal remedies so far known are ichthyol and the silver preparations. Ichthyol has a beneficial action, especially in cases of acute gonorrhœa in the female, and in my clinics every case of acute vaginitis and vulvitis easily yields to a few applications of tampons dipped in a preparation of ichthyol and glycerine, equal parts.—*Medical Record*, N. Y., 1899, lvi, 903.

Uniformly Effective, Agreeable and Lasting,—the Standard Preparation of Erythroxylon Coca

During past 30 years most popularly used Tonic-Stimulant in Hospitals, Public and Religious Institutions everywhere.

VIN MARIANI

"MARIANI WINE"

We have received over 7000 written endorsements from PROMINENT PHYSICIANS in Europe and America.

FORMULA: The concentrated extract—the aromatic principle of the fresh Coca Leaf, blended with a special quality of grape juice of southern France.

DOSE: Wine-glassful three times a day, or more or less at Physician's discretion.

Nourishes = Fortifies = Refreshes

AIDS DIGESTION - STRENGTHENS THE SYSTEM

AGREEABLE TONIC-STIMULANT WITHOUT UNPLEASANT REACTION.

To avoid disappointment please specify "Vin Mariani."

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Intra-Pulmonary Vapor Massage

For All Pulmonary Affections.

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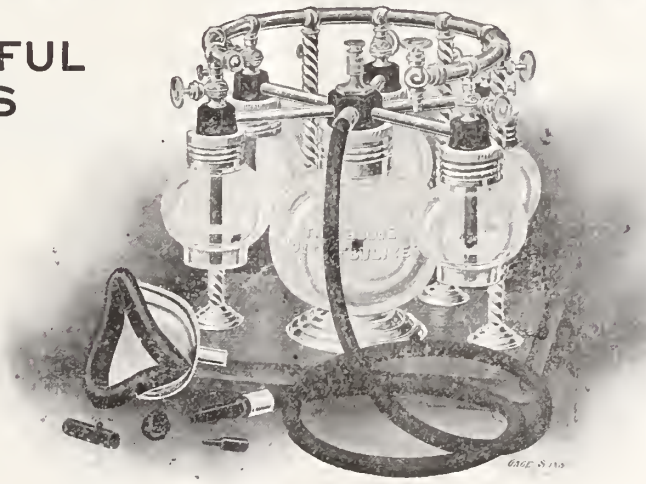
For Affections Of the Middle Ear.



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Write for Circular L.

BATTLE CREEK, MICH., U. S. A.

The Treatment of Leucorrhoea With Yeast.

Landau reports some 40 cases of leucorrhoea treated with injections of brewer's yeast, diluted with water sufficient to pour easily. 10—50cc. were injected into the vagina, dilated with a speculum, and kept in place by a cotton pad. This was allowed to remain 24 hours and repeated every two or three days for one or more weeks; some cases required only one application. Many cases of chronic gonorrhoeal leucorrhoea of long standing which had resisted other local and general measures were completely and permanently relieved. In some, after a prolonged omission of the treatment, the discharge returned, promptly controlled on resuming. (The posibility of a re-infection is not to be disregarded.) In some cases there was only a diminution of the discharge and a few were not improved. No unpleasant effects followed, except that two patients complained of itching which was relieved by a soda injection. In all other cases douches were discontinued. The yeast was kept on ice and renewed every third day.

The effect may be due to: 1. Direct mechanical crowding out of the catarrh producing organism. 2. Absorption of water or other materials necessary for their growth. 3. To the action of the metabolic products of the yeast; either (a) through direct toxic effect, or (b) by neutralizing the toxins which keep up the catarrh, or (c) through a change in the reaction of the nutrient media, perhaps by intensifying the acid present, perhaps by producing an acid which prevents proliferation of the bacteria — *Woman's Medical J.*, Toledo, 1899, ix, 458.

Dietetic Treatment of Constipation.

Prescribed by Boas, Fleischer, Munck and Ewald.

Particular Foods.—Boas classes them: (*a*) Those that leave residue in intestine; bran, graham, rye and black breads; vegetables; cabbage, turnips, carrots, asparagus, sour krout, spinach, salads, noodles, macaroni, farinaceous foods, potatoes, lentils, peas and green haricot beans. (*b*) Those foods which provoke a marked tansudation into the intestines, and thus favor the liquefaction of the intestinal contents: stewed prunes, apples, aloes, plums, apricots, also oranges. (*c*) Foods which induce peristalsis by their strong contents, or by the excessive production of organic acids (butyric, lactic and acetic acids). Here let us include oils and fats in the form of foods.

Drinks—According to the individual case we advise at meals fresh water, cold or hot, alkaline or surgary, of which a large glass taken early in the morning, often produces good results; cider, white wine and kèphir. Between meals, or early in the morning, buttermilk, beaten milk, whey.

Useful Additions.—One may add to the diet honey, honey-cakes, spiced breads with honey or syrup, and especially sugar of milk, which is recommended in place of ordinary sugar. The sugar of milk is taken at the rate of two to three teaspoonfuls in a cup of milk early in the morning, or else a tablespoonful three or four times a day in milk or coffee.

Forbidden Meats and Drinks.—Fancy breads, biscuits, cakes, fillet of beef, rice, cocoa, also meat, bread and potatoes to excess. As drinks, red wine and tea are to be avoided.—*International Medical Journal.*

Removal of Ear Wax.

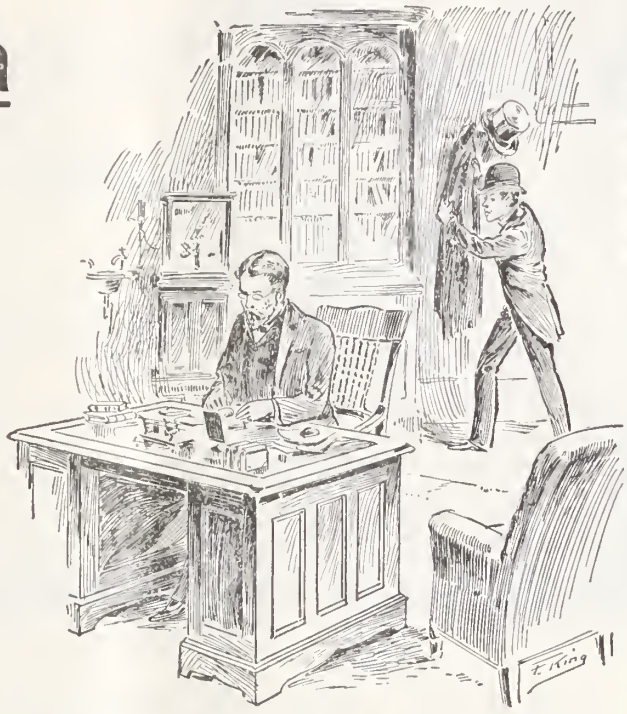
W. Blair Stewart (*Phil. Med. Jour.*) uses a half-strength solution of hydrogen dioxid to disintegrate hardened wax in the external ear. Five or ten minutes is required, and very little syringing is necessary. The ear should be perfectly dried, petrolatum applied, and a plug of cotton kept in place for twenty-four hours after the cleansing.—*Chicago Clinic*, 1899, xii, 516.

"Anæmia

is the sneak thief
of all diseases."

It steals on insidiously, frequently carrying in its wake the beginnings of disease of more serious import.

"Oppose beginnings," is an old and true proverb.



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THE

NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., FEBRUARY, 1900. NO. 9.

Original Article.

URETERECTOMY.

BY J. WESLEY BOVÉE, M. D.,

Surgeon to Columbia Hospital for Women, Gynecological Surgeon to Providence and Columbian University Hospitals, etc., etc., Washington, D. C.

[Original abstract of paper read at meeting of Southern Surgical and Gynecological Association at New Orleans, Dec. 5, 1899.]

Surgery of the kidney is practicably of recent date, although during the sixteenth, seventeenth and eighteenth centuries the practicability of nephrectomy had been discussed and Zambeccarius, in 1670 and Roonhuysen, in 1672, had proved by experiments on animals that one kidney could do the work of both. It may fairly be stated that Simon's successful nephrectomy in 1869, though done in an emergency and for an indication not now recognized, marks the beginning of the surgical treatment of this very important organ.

Surgery of the ureter was the logical sequence to renal surgery. Yet, strangely enough, Gigon had 13 years previously published a case of calculous anuria, recommending and carefully describing the technique of ureterectomy, called by him "ureterotemnie", and practically followed years later by LeDentu and Pozzi.

The interest in this subject has not lagged and at the present time nephrectomy for injuries and diseases of the ureter is called for extremely rarely. Now calculi are removed from the ureter by incision; injuries to it closed by suture or drainage; strictures relieved by delicate plastic operations, curing many cases of hydro-nephrosis in this way; resections for complete section of it, either accidental or intentional, are easily and safely done, about 20 cases bearing evidence of this; and even its entire removal has been practiced 9 times with very gratifying results. It is furnishing the surgical world to-day the richest field for excellent surgery.

By the term ureterectomy is understood the partial or complete removal of the ureter. If removed with the kidney it is primary and at a time subsequent to nephrectomy secondary ureterectomy. The partial removal is often done with nephrectomy, part of the pedicle being formed from the upper end of the ureter, but this paper does not refer to such cases. Total removal was first done by Poncet in 1893 and the first partial operation by Tuffier in 1891. Since then the total operation has been done by McCosh (2 cases), Kelly (2 cases), Gerster, Hartmann, Morris and myself, in all 9 cases. The partial operation has since been done by Reynier, Kelly, Postnikow, Schiller, Morris (2 cases), Elliot, Pouisson, Abbe and Sommers, in all 11 times.

Probably others have been done but not reported. The complete operation was primary in four cases (Kelly two cases and McCosh and Morris each one). Partial primary ureterectomy was done 8 times by Tuffier, Kelly, Postnikow, Schiller, Elliot, Morris, Abbe and Sommers. But one of these 12 cases of nephro-ureterectomy was fatal (Morris', partial). Mine, a total secondary operation, also died giving the 20 operations a mortality of 20 per cent.

In my case, a man, 48 years of age, who had had a nephrectomy 3 years before and later another operation for the remaining pus tracts, was found to be in a very feeble condition, his pulse ranging from 110 to 130 and his temp. from 99 to 101.6. There were three sinus tracts in the left lumbar region discharging thin watery pus. An extraperitoneal exploration was made Aug. 17, '98 after free stimulation of the patient. An incision was made from just above the uppermost fistulous opening and in front of the quadratus lumborum muscle to an inch inside the anterior superior spinous process of the ilium. By careful blunt dissection and holding probes in the fistulæ the former location of the kidney was reached. Here was found a large amount of adipose tissue, containing many pus tracts and calculi and much cicatricial tissue. A little below this was found the upper end of the ureter surrounded by calculi and thickened pus. It was one inch in diameter and filled with cheesy pus and calculi. I immediately extended the incision to the inguinal canal and removed in pieces the whole of the duct. Its distended lumen ended abruptly about one-half inch from the bladder, the remainder being a solid cord. The wound was drained with gauze and partially closed. Death occurred in 17 hrs. probably in part due to the very unusual high atmospheric temperature and relative humidity. Two pieces of the ureter were sent to Dr. Kelly who kindly sent me the following pathological report.

"Specimen of ureter in 2 pieces 8.5 and 6.5cm. long and varying from. 5 to 1 cm. in diameter. Its wall is from 1 to 2 mm. thick and consists of a dense fibrous coat lined with caseous material which also fills the lumen of the ureter.

Histologically, the lining membrane of the ureter consists of diffused tubercular tissue chiefly composed of large epithelial cells and hyaline material with here and there definite distinct tubercles and an occasional giant cell. This membrane merges into the caseous material which fills the lumen of the ureter and externally is limited by a zone of round celled infiltration. The remaining portions of the wall consist of fibrous tissue and a few small muscle bundles. The fibrous tissue is poor in cells and to a great extent has become completely hyaline.

Diagnosis. Caseous tuberculosis of the ureter."—Owing to the specimen having been kept in a solution of formaldehyde, for five months, it was very much shriveled when sent to Dr. Kelly At the time of its removal the lumen easily admitted the index finger. In this case the original trouble was probably renal tuberculosis or possibly pyonephrosis from stricture of the ureter, complicated by the formation of calculi, some of which were not removed with the kidney as they were found in that region and in the ureter at this operation. The tubercular ureteritis descended almost or quite to the bladder, although a stricture near the bladder may have been the original site of the disease. If it was a descending tubercular ureteritis then invasion of

the bladder would probably have occurred had I not operated.

Indications.—In nephrectomy the ureter if diseased should be removed, if the kidney lesion be tubercular then the ureter is very likely involved to some extent. Whether partial or complete ureterectomy is to be done is not easily decided in every case, but we cannot rely entirely on the appearance of the lower part of the duct if the upper end of it is involved and as much of it should be removed as practicable. In descending tubercular ureteritis the disease advances most rapidly along the mucosa and the invasion is likely to be more rapid than can be detected at the time of operation. In malignant disease of the kidney the course of the lymphatic and venous channels are in the opposite direction and therefore involvement of the ureter is not common. Walker found in 120 cases of sarcoma of the kidney but three had involvement of the ureter or bladder. Other forms of severe ureteritis demand removal of the canal. Old dense cicatricial strictures render its removal advisable when nephrectomy is done. Primary malignant disease of the ureter is not common. Probably the intimate relation between the ureter and peritoneum favors early extension of malignant disease and offers but a short space of time for the possibility of eradication. Syphilitic ureteral stricture might very rarely require ureterectomy. Hydro-ureter with hydro nephrosis will in a few cases require nephro ureterectomy, as in Postnikow's case. In 14 cases the operation was done for unmistakable tuberculosis and in 4 others this was probably the condition. In one (Abbe's) sarcoma of the kidney was the indication and in that of Sommers traumatic hemato-hydronephro-ureterosis demanded the operation. Excruciating pain in the region of the ureter especially if sinuses are present, will often call for exploration and probably ureterectomy. It is generally the result of leaving behind a diseased ureter when nephrectomy for renal tuberculosis is done. But total removal of the ureter is not by any means indicated in all forms of severe disease of the duct. Of 19 cases in which the sex was given 13 were women. In every case of tuberculosis of the kidney or ureter the enlargement was marked and the duct easily palpated in the upper part of its course, especially during nephrectomy. In its lower portion the male rectum and the vagina offer very good facilities for its palpation. The ureteral catheter and bougie are exceedingly valuable in exploration and diagnosis. Then the marked symptom of localized pain, often excruciating, changes in the urine, particularly bacteriological, lead to a proper conception of the condition.

Troublesome fistulæ are often present and are strong indicators. The condition of the kidney and ureter on the opposite side must be determined before operation.

Methods.—For removal of the ureter two principal methods, the transperitoneal and extra peritoneal, have been employed. It would seem the former would but rarely be preferable, especially as pus, either tubercular or otherwise, is so constantly in the condition demanding the operation, the danger of infecting the peritoneum very marked, and, as the ureter lies completely outside this structure, its removal by the extraperitoneal route would seem to be the proper one, from an abstract surgical standpoint. In the primary operation, however, with a large kidney tumor, the transperitoneal is the most convenient. 17 cases have

been done by the extraperitoneal, 2 by the transperitoneal and one by combined extraperitoneal and vaginal. Certainly the upper part of the duct is reached with greater facility through the loin, especially in the primary operation.

In women the lower end is most easily reached through the vagina. The whole length of the duct is much more easily dealt with in the male as the broad ligament, and uterine and ovarian vessels furnish difficult complications. The parasacral route for reaching the lower part of the ureter has no advantage. Probably the best incision for ureterectomy extends from near the last rib in front of the sacro-lumbar mass of muscle to an inch above and to the inside of the anterior superior iliac spine and continued toward the pubes as far as is necessary, paralleling Poupart's ligament. In the male this is sufficient and in the female it gives access to all above the broad ligament.

Technique.—Care is necessary to not penetrate the peritoneum. By careful dull dissection it may be avoided and the ureter easily recognized. If the kidney has been removed some time, the upper end of the ureter will be difficult to find unless the end of it has been fastened in the lower end of the nephrectomy incision. Care is necessary to avoid injury of the round ligament, spermatic cord and blood vessels about the inguinal canal. For removal of the lower part in the female the vaginal roof is incised along the course of it. The ureter should be ligated before being severed, and as further precautions cauterization of the stump and suture of the mucosa of it have been recommended. In my case these were unnecessary as the intra vesical portion was solid. The sigmoid and and cæcum, lying in front of the ureters, must be carefully avoided as must the ovarian vessels which cross and recross it and the uterine which also cross it.

Beer Yeast in the Treatment of Gastro-Enteritis, Particularly of Infancy.

E. Thiercelin and A. Chevrey report the result of experiences during the epidemic of last summer in Paris. It is thought that the presence of yeast in the stomach and intestines interferes with the development of germs and diminishes gastro-intestinal fermentation, or that its association with the gastro-intestinal germs determines a diminution of the virulence of the latter by a phenomenon of symbiosis analogous to but opposite to that which is produced in microbic associations when the virulence of the germs is great. In all the observations there was a rapid effect produced upon the diarrhœa. Levurin, which is looked upon as the active principle of yeast, gave equally good results, and would point to the action being due to the antiseptic properties of the yeast. *Med. Rec., N. Y.*, 1900, lvii, 30.

A New Method for the Treatment of Retroflexion and Prolapse.

Schücking describes a new operation for the treatment of retroflexion which does not effect the normal position and mobility of the uterus. The operation consists in a transverse incision in the anterior fornix and dissection of the mucous membrane up to the junction of cervix and vagina. The wound is united vertically, and when completed represents a cross. Should the posterior fornix be much distended, a vertical incision is also made posteriorly and united transversely. In 7 cases thus treated satisfactory results were obtained in 5, 1 slightly improved, 1 not improved. The simple operation is also advised in cases of prolapse with cystocele and rectocele. Good results were obtained. *Am. J. Obst., etc., N. Y.* 1900, xli, 119.

THE NATIONAL MEDICAL REVIEW,

EDITED BY

GEORGE W. JOHNSTON, M. D., and THOMAS E. MCARDLE, M. D.,

AND

THE MILITARY SURGEON,

A SUPPLEMENT.

OFFICE: 1346 Florida Avenue, N. W.

WASHINGTON, D. C., FEBRUARY, 1900.

Editorial.

It cannot be gainsaid that, in the onward march of the medical sciences, surgery, has far outdistanced medicine. If, as Dr. Fitz has recently said, we are no better able today to control the symptoms or modify the results of so common a disease as typhoid fever, than we were in 1839, surely medicine has some right to feel discouraged. The extraordinary results which now almost invariably follow the surgical treatment of, not only the most usual and simplest, but the rarest, most complicated and most serious accidents, injuries and lesions amenable to operative interference, contrasted with those attempted and attained in 1839, must truly stupefy us with our own success.

• • •

Surgery seems to have got the meat out of the science of bacteriology, while to medicine has fallen only the husks. Not a step does the surgeon take but under the guidance and with the help of some practical and well established principle of bacteriology. And although, in medicine, there are notable exceptions, our bacteriology appears to be yet in the laboratory-investigation stage. For example, we know a great deal about the typhoid bacillus, but does this knowledge help us one iota in the treatment of our typhoid patients or increase the percentage of recoveries.

• • •

Again, if the main object of the practice of medicine be the cure of disease, do we pay enough attention to materia medica and therapeutics, and especially to diet and nursing? The students in our medical schools are taught every step of the most serious capital operations. But are they taught the chemistry of food stuffs, the modifications brought about by cooking, and the adaptability of the different nutritious elements and combinations to varying bodily conditions? They will be in practice years, perhaps, before being called upon to do a laparotomy; but the earliest and commonest cases they will have to treat will be instances of disturbed gastric and intestinal digestion.

Notices and Reviews.

ESSENTIALS OF PHYSICAL DIAGNOSIS OF THE THORAX. By Dr. Arthur M. Corwin. Philadelphia. W. B. Saunders. 1899.

This little volume presents in systematic form the gist of the science of physical diagnosis as applied to the thorax. It meets the demands of the student and is a further guide to a more elaborate study of the theme as set forth in existing literature, and as furnished in the clinical material of public and private practice. In revising the text for this third edition the author has, with few exceptions, adhered to the original plan of the work.

ESSENTIALS OF MEDICAL CHEMISTRY. By Dr. Lawrence Wolff. Philadelphia. W. B. Saunders. 1899.

Most students appear to be justified in claiming that they have derived much profit from the systematic course of quizzing which is in vogue at medical schools. This benefit is attributable, no doubt, to the fact that by this mode of instruction essential points are brought out in the form of questions which exact attentive consideration before adequate answers to them can be given. In the volume here presented the author has the same object in view and succeeds admirably. In this fifth edition Dr. Jelliffe has considerably modified and enlarged the chapters dealing with organic chemistry, more particularly in the discussion of physiological chemistry.

ESSENTIALS OF ANATOMY. By Dr. Charles B. Nancrede. Philadelphia. W. B. Saunders. 1899.

While this book cannot replace the larger anatomical works, sufficient descriptive matter has been introduced to enable the student to refresh his memory of the more numerous facts learnt in the lecture and dissecting rooms or from the larger text books. In revising the book for its sixth edition Dr. Brockway has preserved the general outline and arrangement of the former editions and at the same time adding new matter and making corrections in accordance with recent works.

ESSENTIALS OF DISEASES OF THE SKIN. By H. W. Stelwagon, M. D. W. B. Saunders. Philadelphia. 1899.

This is No 11 of Saunders' Question-Compends and like all the others is arranged in the form of questions and answers, prepared especially for students of medicine. In this fourth edition the entire book has been subjected to a careful scrutiny and revision, and the text has undergone numerous small but important changes. As to treatment, the best and approved methods only are referred to.

A TEXT-BOOK OF EMBRYOLOGY. By Dr. John C. Heisler. Philadelphia. W. B. Saunders. 1899.

Prior to the beginning of the nineteenth century, little or nothing was definitely known concerning reproduction and development. It was not until about the year 1840 that it was shown that the spermatozoa are the active agents in fecundation. When these facts are realized and the present text book of embryology for students of medicine is viewed, one can form some notion of the vast amount of work accomplished on this line during the last half century It is true that there are larger treatises on embryology characterized by a minuteness of detail which often serves to confuse the beginner. This book is prepared for the student and will be easily understood. It presents a connected story of human development and at the same time makes each chapter as nearly as possible complete in itself. Great care has been taken in the selection of the illustrations with the object in view of employing those of the greatest teaching value, and for his skill in so doing the author is to be congratulated.

PRINCIPLES OF SURGERY. By Dr. Chas. B. Nancrede. Philadelphia. W. B. Saunders. 1899.

This volume contains the lectures

upon the principles of surgery delivered by Professor Nancrede at the University of Michigan. As the author well says, although many excellent works have been written treating of the principles of surgery, the attempt to render them too comprehensive has marred their usefulness for the undergraduate. Dr. Nancrede has given medical students a plain practical work on his subject without striving after the impossible feat of crowding in the compass of a few hundred pages all the essentials of surgical pathology and bacteriology. Modern specialism in the teaching of medical science has recognized the necessity of providing special instruction in pathology and bacteriology. Attention may be called to the fifth lecture treating of inflammation as a true microbic process and to the appendix wherein Dr. Spitzley gives a resume of the principal views held concerning inflammation. Neither the medical student nor the practitioner can make a mistake in adding this book to his library.

PROGRESSIVE MEDICINE. Edited by Dr. Hobart A. Hare. Volume IV. December 1899. Lea Bros. and Co. Philadelphia.

This well known quarterly digest of advances, discoveries and improvements in the medical and surgical sciences under the supervision of its famous editor keeps well the pace set for it on the issuance of the first volume. A mere mention of the contributors to volume four would sufficiently indicate the value of its contents. Dr. Stockton treats of diseases of the digestive tract and allied organs. Dr. Belfield opens the chapter on genito-urinary diseases in the male and syphilis, by discussing pyogenic infection of the genital organs; Dr. Bloodgood has charge of fractures, dislocations, amputations, surgery of the extremities and orthopedics; Dr. Brubaker has the section on physiology: in discussing diseases of the kidneys Dr. Bradford begins a chapter on anomalies; Dr. Gerrish ably considers the subject of anatomy; Dr. Baker that of Hygiene, whilst the practical therapeutic referendum is under the care of Dr. Thornton. A very valuable index concludes the volume.

A FIRST BOOK OF ORGANIC EVOLUTION. By Dr. D. Kerfoot Shute. Chicago. The Open Court Publishing Co. 1899.

The author of this interesting little volume is to be congratulated upon the success with which he has accomplished his purpose of presenting to the world, but more especially to the students of the Medical Department of the Columbian University in which Dr. Shute holds the chair of anatomy, an introduction to the study of the Development Theory. There is no discussion whatever as to whether the Doctrine of Evolution is true or not. It is accepted by the author as a certainty beyond the peradventure of a doubt. If you agree with Dr. Shute in this opinion then you will gladly welcome this First Book as an aid to the further study of the Evolution Theory to which, according to him, an overwhelming majority of anthropolgists, zoologists, and botanists, and a goodly number, constantly increasing of Christian clergymen and laymen have yielded faith and of which they are earnest conscientious advocates. There is no reason why the most devout disciple of Christ or the most prayerful student of the Scriptures should not be a powerful apostle of the Doctrine of Evolution provided he is convinced of its proofs. There is nothing taught by the Bible which militates against this theory. It would militate nothing against Religion or the Omnipotence of God if it could be proven than the Universe were evolved from one bit of protoplasm. It must be confessed that there is still a large body of the enlightened human race who still decline to consider this doctrine as *res adjudicata* but persist in holding it merely as a theory, a good working theory if you will, but not yet proven with the accuracy and exactness always demanded of a scientific dictum. It matters not, however, whether you hold the same faith as the learned professor of anatomy, you will gain a great amount of useful knowledge by a careful study of his First Book in Organic Evolution.

Progress of Medicine.

The Influence of Prolonged Standing in the Production of Women's Diseases.

J. Stuart Nairne (*British Med. Jour.*, Sept., 2, 1899) says that many years ago his attention was called to this subject, and that during the past thirteen years, as surgeon to two large hospitals for women in Glasgow, he has been able to ascertain the relation of occupation to disease in a vast number of cases. He was convinced that where women stood for many hours each day, the hyperæmia of the uterus and ovaries at the menstrual period, and the influence of gravity upon the temporarily enlarged organs, led not only to prolapsis uteri, but to other uterine and ovarian derangements. Not only so, but the veins became varicosed and, after a time, various forms of neuritis manifested themselves, due in part, perhaps, to the continuous contraction of dorsal muscles. Anæmia, arising from lack of out-door exercise and the long-continued strain of standing, leading to deterioration of the blood-cells, sets in. Special organs lose their tone, suffer from passive congestion, which passes into acute inflammations in time. While only a comparatively small number of shop-girls break down at an early age, 40 per cent. of married women, who have been shop-girls, come under medical attention for pelvic troubles under thirty years of age. The girls are broken down and wearied, but keep at their work by force of circumstances. After marriage the former conditions tell on them, and marriage, instead of giving them rest, adds fresh congestion to organs already more or less diseased. The same statistics apply to girls and women working in factories where they have to stand all day. *Am. Gyn. and Obst. J., N. Y.* xv, 577, 1899.

New Method of Skin-grafting.

Kellock (*Lancet* November 25, 1899) has hit upon a method for providing a large piece of skin for use as a graft. By the ordinary methods, if a thick piece of skin is taken it fails to unite, whereas a thin Thiersch graft, while uniting easily, does not prevent cicatricial contraction. The author's method is to mark out a square piece of skin and to cut on its four sides a thin Thiersch graft, leaving it attached in the central portion which is then dissected up from the subcutaneous tissue. Such a graft, if properly applied to a raw surface will unite almost as readily as an ordinary Thiersch graft, while its thick center, comprising the whole thickness of the cuticle, limits cicatricial contraction. The wound caused by its removal may be approximated by sutures or may be covered by a thin graft. *Med. News, N. Y.* 1900, xxvi, 18.

New Method of Local Treatment for Varicose Ulcers.

Bunts (*Cleve. Jour. of Med.*) has obtained gratifying results in the treatment of varicose ulcers, particularly of the so-called irritable ulcer, where operation is not permitted, by the local use of iron ore as a dusting powder. He was led to make use of this in surgical dressings through observing the favorable results following injuries to laborers on the iron ore docks, after treating 1,500 cases of injuries among this class alone. The ore selected is the red granular ore. This is pulverized carefully and sterilized in test tubes by dry heat. The action of this powder does not seem to be antiseptic but chiefly mechanic. It forms an excellent protective for the skin, being very difficult of removal, and presents a somewhat glistening or glazed appearance after a few hours application. In conjunction with it, after applying the powder, Dr. Bunts uses gauze compresses wrung out of a weak (1-8000) solution of corrosive sublimate. Its beneficial action has been most marked in the so-called varicose eczema. In the indolent varicose ulcers, cures have been effected, but repair has been somewhat slow. *Med. Standard*, Chicago, 1900, xxiii, 34.

Typhoid Fever in Patients Suffering From Cardiac Affections.

Dr. Mossé (*Jour. de Med. et de Chir. Prat.*) has made researches to deter-

mine whether the prognosis of typhoid fever occurring in cardiopaths presents a more severe prognosis than when it occurs in individuals whose heart is normal, also to determine whether the course of the typhoid fever is modified by the existence of the cardiac lesion, and what influence, if any, the typhoid fever exerts on the cardiac lesion; and finally to ascertain which treatment is most appropriate to the typhoids under consideration. His conclusions are:

1. Cardiac lesions, when well compensated, do not darken the prognosis in typhoid fever.

2. They exert no influence on the evolution and course of the disease. They do not create a locus minoris resistentiae.

3. Typhoid fever neither aggravates nor modifies the cardiac lesion.

4. Treatment of choice is by cold baths from 27 deg. to 28 deg. C. and toniques: Caffeine, ergotine, quinina. *Medical Standard*, 1899, xxii, 486

Treatment of Fractures by Massage.

W. S. Caldwell, in the *Railway Surgeon* of September 5, 1899, says that while other surgeons have advised the treatment of certain fractures without the use of splints, Championniere has so extended this field of practice and so systematized it as to put the whole subject upon a scientific basis. A letter to Dr. Caldwell from Dr. Championniere states that in America the profession is even more antagonistic toward the plan of treating fractures by massage than is that of France. In his treatment of fractures without splints, massage is an important factor. The word massage is likely to be misunderstood, especially by those who are accustomed to seeing it performed in a rough manner. In beginning massage of a fracture very little pressure must be brought to bear upon the parts, and the massage must be soft, progressive, and painless. The joint movements which he advises are to be made in a methodical manner, which is entirely different from abandoning the patient to his own resources. Championniere has treated fractures in this way for over fifteen years. The chief difficulty encountered in France was to get the public to accept a form of treatment that does away with a lot of mechanical appliances to which they have become accustomed. Fixation apparatus is not wholly abandoned, as there are cases in which the tendency to displacement is so great that the temporary use of splints is necessary, in order to eliminate the motion of the parts.

Fractures of the clavicle, which have become very frequent in Paris since the use of the bicycle, are treated successfully by massage. It is only where the displacement of the fragments is very great that any retentive apparatus is applied. In those cases where a patient is anxious for a recovery without any deformity, the seat of the fracture is laid open and the ends of the bone wired. *Medicine*, 1899, v, 857.

Hyperemesis Gravidarum.

Dirmoser believes that auto-infection from the intestinal tract is the usual cause of hyperemesis and that the etiological importance of hysteria is largely overestimated. He refers to the similarity of post-mortem changes in hyperemesis and acute infection. Urinary analysis shows an increase of indol, skatol, and other products of retrograde metabolism, also albumin, acetone, and peptone. Organic structural elements are found in the urine, indicating a nephritis. There exists an individual predisposition, probably owing to the abnormal condition of the intestinal canal. The best treatment for this obstinate and often serious complication of the pregnant state would be intestinal antisepsis, and the author states that the results obtained from such treatment will be published at a later date *Am. J. Obst.*, 1900, xli, 110.

Relapsed Clubfoot.

Taylor (*Maryland Med. Jour.*, December 2, 1899) says that in all cases of true congenital talipes equino-varus, if the foot is not mechanically fixed in an overcorrected position after operation so that it can be walked on, it will relapse into just as bad if not a worse position than

before operation. He mentions three such cases. The patients had had tenotomy done in infancy and wore plaster-of-Paris casts for a month or more, and within six months or a year they were worse than before, so that a simple tenotomy no longer sufficed to correct the deformity. The best surgical relief of talipes equino-varus will be worse than useless if correction is not maintained by a suitable ambulatory brace for months afterward. Such a brace must exercise pressure at three points: (1) at the metatarsal phalangeal articulation of the great toe; (2) at the inner side of the heel, and (3) at the calcaneocuboid articulation on the outer side of the foot. There must be a stop-joint at the ankle to prevent a recurrence of the equinus. The inner side of the brace and shoe must be lower than the outer side to prevent supination of the foot. The author strongly condemns any mutilating operation to the bony frame of the foot, such as removal of the astragalus, these operations being contrary to the best interests of the patient. *Med. News, N. Y.*, 1899, lxxv, 860.

Eclampsia.

P. C. T. Van der Hoeven defends the theory that eclampsia is due to a toxemia caused by the accumulation in the circulation of the excretory products of the mother and those of the fetus, conveyed directly through the placenta or through the liquor amnii, into which the products of venal secretion of the fetus are discharged.

At a recent meeting of the Edinburgh Obstetrical Society, Jardine stated that (hemorrhage and rupture of the uterus excepted) eclampsia was responsible for most obstetrical accidents. The blood undoubtedly contains the poison, which acts upon the liver, kidneys, and other organs. This poison Nature attempts to remove through the kidneys, intestinal canal, and skin. Copious subcutaneous infusions of saline solution are best suited to produce diuresis. Jardine advises to add to each three parts of sodium chloride one part of carbonate of potash. He never observed bad effects, even when the proportion of potash was increased to three parts. The lax abdominal walls (after parturition) or a point below the breasts are the best places to make the injections. He was able to inject 500 cubic centimetres within the short period of four minutes; this was completely absorbed within fifteen to twenty minutes. Injections of morphine are not favored. The author prefers chloral, bromides, and veratrum viride. Success can only be expected if the treatment is begun early.

Bayer reports 50 cases of eclampsia which occurred during the last five years in the Cologne Maternity Hospital The mortality amounted to 24 per cent. Examination of the blood frequently showed the presence of bacteria. Bacteria, however, are not considered an etiological factor, and the disease is ascribed to an autoinfection peculiar to pregnancy. Doses of morphine were often administered, generally without beneficial results. The administration of chloral is advised; chloroform and pilocarpine are considered dangerous. Venesection and diaphoresis are highly recommended. Speedy termination of pregnancy and labor is advisable, also rupture of the membranes. The favorable results obtained from forcible delivery are probably due to the accompanying loss of blood. The author, however, does not favor radical treatment, and also objects to Cesarean section, except when the mother is moribund and this operation affords the only chance of saving the child's life. *Am. J. Obst., etc., N. Y.* 1900, xli, 105.

The Treatment of Chronic Eczema at the Babies' Wards.

Henry Dwight Chapin (*Post-Grad.*, September, 1899) protests against the inefficient treatment usually applied to chronic eczema, where the mother frequently washes the child with soap and water, the ointments are applied without first cleaning off the dried exudations, and when applied are quickly rubbed off by the hands or clothing. To soften the exudation the part may be

wrapped in lint which has been soaked in bichloride (1-10,000) or carbolic acid (1-100) and the whole surrounded by oiled silk. After twelve hours the exudate may usually be rubbed off by pledgets of cotton soaked in oil or vaseline. Sweet oil may be used in the same way as the bichloride or carbolic acid; the latter, in fact, should not be used where the disease occupies a large surface. Lassar's paste, containing one part of salicylic acid in one hundred, perhaps of half strength for very young infants, is rubbed into the skin and the part covered with a bandage, or, if the face, with a mask. Once a day the skin is thoroughly cleansed with cotton and vaseline, and the dressing renewed. The treatment can be perfectly well applied to the whole body. *Am. Gyn. and Obst., J., N. Y.*, 1899, xv, 550.

Hemorrhage in New-Born.

J. G. Kinneman, M. D., Goodland, Ind., (*Indiana Medical Journal*, Nov., 1899), writes as follows:

I find, in looking over a limited portion of the literature of this accident, many cases reported, but little on its pathology or etiology. Holt, in his recent text-book on "Infancy and Childhood," intimates no cause other than fragilty of vessels and change in circulation and blood after birth. He, with others, mentions the coincidence of syphilis in 2.5 to 14 per cent. of the reported cases. Sepsis has received its share of blame, but nothing definite has been offered. Gärtner has isolated a bacillus in two cases, and made an attempt to demonstrate it as a causative factor, but so far has reached no satisfactory conclusions. Dyscrasia and hereditary taint are offered as causes by J. Lewis Smith, since a majority of cases have been seen in foundling and other hospitals, where evidences of hereditary taint are most likely to be seen. All I believe, agree that it most frequently occurs in males, not in that extreme ratio as do s hemophilia (13-1), but markedly so.

Dr. Francis Minot makes a report of 42 cases in 1852, with a mortality of 84.8 per cent. A collection of 220 cases, by Dr. Ludwig Grandidier, in 1871, shows a mortality of 83 per cent. Of the 109 cases by Townsend, 79 per cent. died. The prognosis is unfavorable, until the falling of the cord, at which time, if no further hemorrhage ensues, the child seems to have equal chances with others of its age.

Nothing is offered in the way of treatment new to that of forty years ago. Compresses, local styptics, etc. with quiet, warmth and nourishment. The application of such treatment as is used in ventral hernia (pins and figure 8 suture) has been advocated, but with the closing of the umbilical bleeding usually come hemorrhages upon the surface at other points, or within the intestines, or stomach, or from the kidneys. *Pediatrics, N. Y.*, 1900, xi, 82.

Treatment of Tubercular Glands.

In the treatment of tubercular glands according to Sebileau in the *Journal de Praticiens* of September 30, 1899, the following plan of treatment should be carried out:

The patient every morning should take exercise on a bicycle for an hour. After this he should have a cold sponge with dry friction, followed by a breakfast consisting of boiled milk, bread, eggs, and butter. Then he should expose himself to sunlight for a number of hours, during which time he is to rest as much as possible. A short walk may be taken before and after luncheon. In the way of food, roast and broiled meats, fish, boiled milk, and eggs should be used; green vegetables should be employed in moderation. During the afternoon the patient should lie down and take a nap, and after this he should be rubbed off with alcohol, and passive exercise be given to the muscles of the trunk. In the way of medication two or three drops of Fowler's solution may be given once or twice a day, and a quarter of an hour after the two principal meals of the day he should be given a small dose of cod liver oil. Should there be any indigestion this may be followed by pancreatin.

Along with it may be taken as a nervous tonic the following mixture:

Glycerin, 2 ounces;
Phosphate of sodium, 2 drachms;
Phosphate of lime, 2 drachms;
Extract of cinchona, 4 drachms;
Malaga wine, 1 quart.

It should not be forgotten that tubercular enlargement of the glands nearly always ultimately necessitates surgical interference, which should consist not only in an incision but curetting. In a few cases interstitial injections are wise. *Therap. Gaz., Phila.*, 1900, xxiv, 30.

Eclampsia in the Boston City Hospital for the Past Fifteen Years.

Newell (*Boston Med. and Surg. Jour.*, Nov. 9, 1899), analyzes the ninety cases of eclampsia upon record at the Boston City Hospital since 1885. In eleven of these cases there were no convulsions, every other essential symptom, however, being represented. This leaves seventy-nine cases of puerperal convulsions in a total material of 6,700 confinements—a morbidity percentage of 11.7 per thousand. This percentage is in excess of the normal proportion because the City Hospital receives the overflow from other clinics. The natural morbidity is computed at about five per thousand. Nearly three-fourths of these cases of eclampsia occurred in primiparæ, and this proportion holds good for all clinics.

An interesting feature is embodied in the question of the relative preponderance of ante, inter, and post-partum convulsions. In this Boston series at least one-third exhibited no convulsions until after delivery.

Newell finds that the duration of labor exerts but a small influence upon the occurrence of eclampsia. The occurrence of multiple pregnancy exerts an undoubted influence—for one twin birth in ten is attended with convulsions.

The tendency of elderly primiparæ to develop eclampsia, urged in statistics, was not apparent in the City Hospital material.

As a general rule, prodromes occurred in the author's material, two-thirds exhibiting this feature, while in the remainder the prodromes were absent or of doubtful interpretation. However, these cases were not under observation before delivery, and statements as to symptoms come from the anamnésis only. As a rule the pre-eclamptic symptoms were more or less vague when evidence was derived from testimony of patients. A considerable number exhibited headache, vomiting, epigastric pain, etc., while a small proportion exhibited stupidity, blindness or blurring of vision, twitching of muscles, delirium, and jaundice. About one-third showed edema of the feet.

On the other hand, all but two cases exhibited objective disturbance of the urine, chiefly albuminuria.

Of the twenty-one fatalities—a mortality of 26.5 per cent.—the average number of convulsions was about twelve. The prognosis, however, is extremely deceptive, as patients may succumb after one or two convulsions, or may recover after twenty-five. It may be shown that every prognostic rule has a large contingent of exceptions.

Newell has analyzed the treatment, especially in the cases with fatal ending, and concludes that there is room for improvement. Shock doubtless plays a part, and we should use more stimulant treatment, such as obtains after capital surgical operations. After emptying the uterus we should not ignore the element of shock but should exhibit the saline solution. Pilocarpine and morphine appear to be distinctly contraindicated. By ceasing to depend upon this kind of interference and by employing the anti-shock management we may be able to materially improve the mortality rate of women who suffer from eclampsia. *Obstetrics, N. Y.* 1900, xi, 24.

Diabetes Among Railway Engineers.

An editorial in the *Interstate Medical Journal* for November, 1899, states that one in twenty locomotive engineers have diabetes. We take it that the word diabetes here should be translated glycosuria. It is the belief of the writer that if the subject were still more closely

investigated it would be found that the proportion is even greater than that named. It seems to affect the old engineer—that is, the one who has followed the vocation for some time. The disease is very much more frequent among engineers than those employed in other departments of the railway service. The writer finds that there is this peculiarity in the employment of the railway engineer: he sits upon a box with one leg extended over a foot-rest, while the lever is between the legs; his spinal column is constantly subject to the jars and jolts of the engine. This concussion is transmitted by the spinal column to the brain. Firemen are also subject to the disease. It is believed that the trouble is caused frequently by cerebral irritation incident to the occupation. Not the least interesting fact surrounding the diabetes of the engineer is the ease with which it yields to treatment, when rest, diet, and codeine are used. A return to the employment always results in a reappearance of the sugar. The fatality of the affection among engineers is not great; many of them continue their employment from five to ten or more years, having all the time sugar in the urine, but with no special impairment of the general health. —*Medicine*, Detroit, 1900, vi, 60.

The Diet in Typhoid Fever.

Manger, in the *Medical Record* for January 6th, reviews the literature on the more liberal feeding of typhoid patients.

Barr, of Leeds, fed his patients with bread and butter, minced meat and ordinary mixed diet even when the temperature was 104 with no bad effect.

Bushnyev, of Russia, believes in feeding as fully as possible, and in 80 cases his mortality rate was 10 per cent., while in 74 cases treated by his colleague and given milk 12.1 per cent. died.

Shattuck and Fitz, of Boston, are also heartily in favor of a fuller diet.

Two hundred and thirty-three were treated with the milk diet, the mortality rate being 10 per cent.

One hundred and forty-seven were allowed a liberal diet with a mortality rate of 8.1.

Shattuck's diet includes:

Milk, hot or cold, with or without salt, diluted with lime water, soda water, Apollinaris, or Vichy water; peptogenic and peptonized milk, cream and water (*i. e.*, less albumin); milk with white of egg, buttermilk, koumyss, matzoon, whey, milk with tea, coffee or cacao.

Soups—beef, veal, chicken, tomato, potato, oyster, mutton, pea, bean, squash; carefully strained and thickened with rice (powdered), arrowroot, flour, milk or cream, egg, barley.

Mellin's food, malted milk, carnipeptone, bovinine, somatose.

Beef juice.

Gruels—strained corn meal, crackers, flour, barley water, toast water, albumen water with lemon juice.

Ice cream.

Eggs, soft boiled, raw, egg-nog.

Finally, minced lean meat, scraped beef; the soft part of raw oysters; soft crackers with milk or broth; soft puddings without raisins; soft toast without crust; blanc mange, wine jelly, apple sauce, and macaroni.

Manger does not advise that each and every patient be placed upon these less restricted diets, nor that every article of diet should be allowed, but those who have the advantages of hospital services should give an extended trial to the more liberal feeding of typhoid fever patients.—*Charlotte Med. J.*, 1900, xvi, 63.

The Necessity of Maintaining Heat and Preserving Blood in Surgical Operations.

At various times during the past eight years we have published in the columns of the *Therapeutic Gazette* facts which call attention to the vital importance of preserving the body heat and preventing even slight losses of blood during the progress of mild or severe operative procedures. The original, Editorial,

and Progress columns have frequently brought before the attention of the practitioner the importance of these points in practice, and our attention has once more been called to it by the article upon "Surgery of the Extremities," which has been contributed by Dr. Joseph Bloodgood to the fourth volume of *Progressive Medicine* for 1899. In this article he details his own experience and that of his superior, Professor Halstead, of the Johns Hopkins Hospital, which show beyond doubt that if heat is carefully maintained and oozing hemorrhages prevented, the mortality from surgical shock falls almost to nothing. Thus, in cases of "Halstead's operation" for mammary cancer, in which extensive dissection of the tissues of the axilla is required, and which therefore sometimes takes three or four hours for its accomplishment, careful attention to these two points has prevented death from shock, although as a rule the patients operated upon have been women well advanced in years, whose constitutions have been to a considerable extent impaired prior to the operation. So, too, the researches made by Crile of Cleveland, upon surgical shock have emphasized these facts once more.

It is not sufficient for the surgeon to operate first, and then apply external heat to the body afterwards, nor to permit a considerable loss of blood by hemorrhage and then to replace it by the hypodermic or intravenous injection of saline solution. It is necessary for him to prevent the loss of heat and blood primarily by providing his patient with artificial heat during the operation, preventing undue exposure, particularly of important warm-blooded parts like the abdominal contents, and by the checking of hemorrhagic oozing. If minute details in technique are carefully adhered to, infinitely better results will undoubtedly be attained. *Therap. Gaz.* Phila., 1900, xxiv, 24.

New Method of Resecting the Elbow-Joint.

Cavazzani (*Centralblatt fur Chirurgie*, Oct. 21, 1899) divides his operation into four stages: 1. The external incision starts outside the tendon of the biceps, two centimeters below the epicondyle, and is carried transversely outward, parallel to the interarticular line; it then runs obliquely from behind forward to end at the inner border of the ulna, near the tip of the olecranon. 2. The epicondyle is now laid bare. Over the groove of the latter the aponeurosis is separated by the knife at the space between the site of the collum radii to a point above the epicondyle. The muscles which arise from the latter are pushed inward and their origins separated subperiosteally from the humerus. The capsule of the joint is now exposed as far as the coronoid process. The anconeus muscle is now separated or divided transversely, in order that the epicondyle shall be entirely separated from the muscles of the forearm. Thereby the joint capsule is exposed as far as the olecranon. 3. The tendon of the triceps is now partly separated from the ulna in connection with the periosteum, but only in its external portion: so that the radial half of the olecranon and its apex are laid bare. Only half the tendon is divided. 4. The joint is opened. The ligaments and capsule are divided in the joint line; all other attachments are severed from the coronoid process to the apex of the olecranon. The upper and forearms are then wrenched apart by an exaggerated adduction movement. This manipulation does not injure the vessels or nerves.

After resection is performed, the forearm is restored to its place by reversing the former movement, and the ligaments, muscles, and skin are all sutured. *Medical Age*, Detroit, 1900, xviii, 28.

OF THE DISTRICT OF COLUMBIA.

(Continued from December number.)

The difference between typhoid and typhus fevers as regards the frequency of uraemic convulsions is curious. Most of the convulsions occurring in the course of typhus fever are uraemic in character, whereas those of typhoid are rarely due to this cause. It is also an interesting fact that convulsions sometimes occur in typhus fever when, with a small daily quantity of urine, no albumen or casts can be found. It is possible therefore, that in the third case just reported, they may have been due to uraemic poisoning. Dr. Claytor's treatment of these cases was attended with remarkable success: one of his patients out of three recovered, whereas out of 69 cases reported by Murchison, 61 died.

Dr. J. Dudley Morgan said that the third case reported interested him especially, as it had been under his care during the period of convulsions. For several days preceding their occurrence, there had been a scarcity of urine, but 38 ounces were passed in the 64 hours preceding the attack, and but 12 ounces and 16 ounces respectively on the first and second days before treatment for uraemia had already been instituted. Upon the day following the attack the patient passed 44 ounces of urine in 24 hours, as much as during the entire 3 days preceding it. But gr. 101 of urea had been excreted in the 24 hours covering part of the period of convulsions. Whereas he believed that such attacks could be due to other causes than uraemia, he believed that the convulsions in this case were due to the non-excretion of morbid products by the kidneys—as was shown by the fact that when the kidneys responded to treatment the convulsions ceased, and there was no further trouble. Preceding the convulsions, the temperature had fallen from 102 to 97 degrees—an indication of threatened uraemia. The convulsions were clonic in character the pupils were dilated, and there was opisthotonos

Dr. Kober said that he wished to express his appreciation of the manner in which Dr. Claytor had presented rare clinical facts, and he accepted his interpretation of the causes of the convulsions in his cases. The complication was exceedingly rare, as in many typhoid cases, he had never seen one. He believed that when they occurred in the early stages of the disease in an individual otherwise susceptible they were due to toxaemia. He was not inclined to lay much stress upon hyperpyrexia as a cause, as high temperature occurred with comparative frequency, and convulsions but rarely. Hyperpyrexia, moreover, is generally the result of toxines in the body, and even the excessive temperature accompanying the simple convulsions of childhood is frequently caused by something more than mere excitation of the nerve endings. It is often due to autointoxication—the toxic element constitutes the primary cause. The same may be said of the convulsions seen in scarlet fever, and other eruptive fevers, especially in cases where there is marked infection. Hence, it was his belief that convulsions occurring in the early stages of typhoid were due to the presence of toxines in the body, although uraemia, anaemia, meningitis, cerebral thrombosis, and other like complications were no doubt potent causes in some cases.

Dr. Behrend asked Dr. Claytor whether the blood in his cases had been examined for malaria, as convulsions are sometimes found as a manifestation of that disease, particularly in the South.

Dr. Acker said that in April, 1894, he had reported to the Society a case of typhoid fever, in a choreic patient, in the course of which convulsions occurred, which were followed by death. The child entered the hospital in November suffering from chorea. On December 14th, typhoid fever developed. In January, when the patient was convalescent, an epileptic case entered the ward, and had a convulsion before the child's eyes. The patient was much wrought up by the sight, but was somewhat quieted, and went to sleep. It awoke with night terror, and had a series of convulsions, and died the next morning. Dr. Carter,

U. S. A., told him that he had seen several cases of convulsions in typhoid, during the past year, and that he thought the complication more common than was ordinarily supposed. He believed that the toxic element constituted the most important etiological factor of these convulsions. This was especially true of those occurring in scarlet fever. The immediate cause is irritation of the nerve centers. They are also sometimes caused by lack of proper nutrition.

Dr. WARD said that Dr. Claytor's paper was interesting not only because he brought to our attention a rare occurrence that sometimes intervenes in this fever, but also because he endeavors to classify his cases. Accordingly, he cites a case as due to nephritis, or uræmia as a phenomenon of nephritis, rather than typhoid fever. This marks the recognition specifically of a complication in typhoid fever; and also, the existence of two diseases at the same time—one chronic and the other acute. The history of the discussion on the so-called typho-malarial fever, between Woodward and Barthalow, marks the pathological recognition, on the part of the whole profession, of the fact that typhoid fever and malarial fever may, and do, exist as separate and distinct fevers, at the same time—as two acute diseases. Thus, convulsions in typhoid fever may be due to another acute disease, as well as a chronic disease, complicating it. These facts have been known, or at least assumed, for many years, but only of late have physicians been forced to adopt the opinion of the coincident existence of two acute diseases in the same patient. We cannot regard convulsions in typhoid fever as due to the toxæmia thereof, for, while we may, and do, have convulsions sometimes in typhoid fever, we do not have convulsions as a phenomenon of typhoid fever; because we have hundreds of cases of typhoid fever, each of course marked by its own toxæmia, yet convulsions are rare therein. Nor can hyperpyrexia be regarded as a cause of convulsions in typhoid fever, for we have hyperpyrexia without convulsions and convulsions without hyperpyrexia. Besides, hyperpyrexia is merely a symptom, and so is anæmia. Thus we have convulsions in typhoid fever, as the essayist says, by reason of the existence of nephritis in the same patient; we may have them also when typhoid fever is complicated with meningitis, just as we have meningitis in pneumonia, and we may have them from indigestible food, and also, from other pathological causes, complicating typhoid fever.

Dr. S. S. ADAMS said that in support of what he had claimed, he would say that it was impossible to say whether the temperature and toxines were *Post* or *Propter Hoc*. He would admit the importance of infection as an etiological factor in some cases, but many children had toxæmia and hyperpyrexia too, and no convulsions. Glass, or other irritating substances in the bowel might cause them; hence, there were probably many causes. But one could not say that the convulsions were not due to hyperpyrexia because all patients who have hyperpyrexia do not have convulsions.

Dr. CLAYTOR in closing the discussion, said in reply to Dr. Behrend, that the blood in each of his three cases had been examined for malaria, with negative results. Widal's test was positive. As regards hyperpyrexia as an etiological factor, in his first case, the most severe convulsions appeared after the temperature had been normal two weeks. It rose immediately after, however. In the second case, the temperature had been high, and remained so for a week after the convulsions. In the third case, the temperature had fallen before the attack, and remained low during the three seizures and then rose, and remained irregularly high for two or three weeks. As to what Dr. Ward had said, no further classification was possible, until the results of more post mortems had been ascertained. These were not often made on acount of the rarity of the affection.

MEETING OF OCTOBER 25th, 1899.

Dr. SOWERS, Vice-President, in the Chair.

Letters were read from the Medical Department of the University of California, and the Rush Medical College, requesting copies of the Societies' Transactions, which upon motion of Dr. A. F. A. King, will be answered in the affirmative.

A CASE OF GUN SHOT WOUND OF THE KNEE JOINT.

BY LLEWELLYN ELIOT, M. D.

Wounds of the knee joint are of importance. Where non-penetrating wounds may, apparently, be an insignificant matter, in those cases in which suppuration does not occur, they assume gravity when this process is established and may result in destruction of tissue and impairment of or loss of motion from contraction of cicatrices. A penetrating wound of the knee joint is always attended with danger to the patient. If the wound has been made by a knife blade and is protected from infection, the rent in the capsule may close, the extravasated blood become absorbed and rapid recovery ensue with little or no impairment of the joint. When either a compound fracture or dislocation is present, there is more or less destruction of tissue, which even with most rigid appreciation of aseptic surgery results in an anchylosed joint. On the other hand, the most dangerous class of wounds to the joint are those from gunshot, for notwithstanding the fact that the bullet is supposed to be sterilized by the heat generated in its passage through the gun, particles of clothing and other matter may be introduced into the wound tract, and become sources of infection, consequent suppuration, and possibly require amputation. In the practice of military surgery until the past few years, suppurative arthritis quickly appeared in those cases where amputation or excision was not performed at once. This, with the adoption of the small calibre bullet, and the application of "first aid" antiseptic dressings immediately following the receipt of the injury, may probably change and suppurative arthritis become the exception.

In large incised wounds of the knee joint, the attempt must be made to close the rent in the capsule, then suture the external wounds and immobilize the joint; where an open fracture or dislocation is present no rule can be laid down, further than to remove those fragments which cannot be replaced and wired, irrigate, insert through and through drainage and treat as other compound wounds. Injuries inflicted by gunshot are distinct in themselves. One rule from which there can be no exception, should be, never to probe for a ball unless everything is in readiness for its removal, since if the ball is not found, infection may have been introduced, particles of clothing and other infectious matter may have been pushed further along the tract and distributed. This applies equally as well to the finger as to the metallic probe.

Case. Spencer Lee, colored, aged 26. While under the influence of liquor, May 2nd, became involved in a row and was shot in the anterior face of the knee, the bullet 32 calibre striking the central portion of the patella, fracturing it. He walked about for three hours and was brought to the Casualty Hospital at 3.30 p. m. In my absence,

Dr. Chamberlin saw him and called Dr. Bayne in consultation. About 8 o'clock chloroform was administered, the ball probed for, not being found an exploratory incision was made over the joint, the wound irrigated, sutured and put in plaster of paris from above the knee to the foot. On the morning of the 3rd temperature was 99 4-5 degrees; at 12 m. temperature 101 degrees, at 9 p. m. 102 1-5 degrees. May 4th, temperature at 8 a.m. 100 3-5 degrees, pulse 72; 12 m. 102 degrees,at 5 p. m. 101 4-5 degrees, 10 p. m. 99 degrees, pulse 70. May 5th. temperature 99 4-5 degrees. Plaster removed, with the X-Rays the bullet was located at the inner side of the knee about the middle line of the head of the tibia. Temperature 8 p. m. 101 3-5 degrees. 6th, temperature 9 a. m. 99 degrees. At 1-30 p. m. he was placed under chloroform and with the assistance of Dr. Chamberlin and the House Staff an effort was made to extract the ball. During the night as the leg had pained him he removed all dressings thereby removing the markings which located the bullet, the work then became a matter of guess. An incision was made along the inner side of the joint extending three inches, a thorough search was unsuccessful, another was made in the popliteal space with a like result. Incision closed with Red Cross sutures. Temperature at 10 p. m. was 100 degrees. Morphia sulph. grains ¼. May 7th, temperature a. m. 99 degrees ; p. m. 102 degrees. Dressing moistened with synovial fluid. May 8th, temperature a. m. 99 4-5 degrees, p. m. 101 2-5 degrees. Little discharge from wound of entrance of bullet ; none from exploratory incisions. Irrigation. May 9th, temperature 99 2-5 degrees, p. m. 102 1-5. May 10th, temperature 100 degrees, p. m. 103. Has considerable pain and much discharge from bullet wound. May 11th, temperature 99 3-5, p. m. 102 2-5 degrees. Increased pain and discharge. May 12th, temperature a. m. 99 2-5 degrees, p. m. 102 3-5 degrees. Discharging from sinous tract extending upwards and laterally (externally) in direction towards femur three inches long ; pants fibre sloughed out of this sinus.

May 13th, temperature a. m. 100 degrees, p. m. 102 4-5 degrees ; fibre, coal dust and pus discharged ; irrigation with hydrogen peroxide and corrosive sublimate solution 1:1000. May 14th, temperature a. m. 100 degrees, p. m. 102 degrees. Increased amount of fibre and coal dust.

May 15th, temperature a. m. 99 4-5, p. m. 101 4-5 degrees. Fowler's solution of arsenic gtt x t. i. t. (gr 1-12) every 3 hours. May 16th, temperature a. m. 100 1-5 degrees, p. m. 102 3-5 degrees. May 17th, temperature a. m. 100, at 1 p. m. chloroform was administered. The knee joint was laid open the sinus explored and irrigated. several fragments of the patella, nearly one half of the bone, were taken out, a counter opening was made about five inches above the joint on the outer side of the thigh, another on the outer side of the knee, drainage tubes inserted ; plaster dressings with openings for the tubes. May 18th to 24th, temperature varied from 99 degrees a. m. to 101 4-5 degrees p. m. Fowler's solution increased to gtt xv (gr ⅛.)

On 25th, a. m. temperature 99 2-5 degrees, p. m. 101 degrees. Cast taken off ; drain tubes removed ; irrigation, packing and application of posterior tin splint. May 26th, temperature a. m. 100 degrees, p. m. 101 1-5 degres, ls

suffering from arthritis. Given salicylate sodium. May 27th, Fowler's solution decreased to gtt x (gr. 1-12.) May 28th to 31st, temperature ranged from 99 a. m. to 100 degrees in the evening. June 1st to 5th temperature ranged from 98 4-5 degrees a. m. to 100 p. m. He continued to improve from this time; all medicine was stopped, the posterior splint removed and leg put in plaster of paris until his discharge June 20th.

July 23rd, bullet located by Dr. Bishop with X-Rays about two inches above the patella under the tendon of the rectus femoris and extracted under chloroform. Wounds sutured, dressed with acetaniled powder and patient put to bed. Wound healed rapidly and he was discharged with fair motion in the joint.

DISCUSSION.

Dr. A. F. A. KING inquired why Fowler's Solution had been prescribed in this case. Also, why the X-ray apparatus was not used a second time.

Dr. BORDEN said that he had listened with interest to Dr. Eliot's paper. The case reported belongs to a class which is interesting to the surgeon, and especially to the military surgeon. Gunshot injuries form a large percentage of all joint injuries received—in the Civil War, 28 per cent. Their mortality was also exceedingly high—where the bones were not shattered, 21.9 per cent: where they were, 57.3 per cent. These injuries are therefore interesting not only as to the question of saving the limb, but also as to saving the life of the patient. Dr. Eliot was to be congratulated on the results of his treatment in the case which was exceptionally good, considering the fact of the evident infection of the wound.

Three courses might be followed in the treatment of gunshot injuries of the knee joint: 1. Excision. 2. Amputation. 3. Conservatism.

As regards the first of these, the mortality in the Civil War was 81.4 per cent; in the Franco-Prussian War, 80 per cent; and in the Russo-Turkish War, 100 per cent

Hence, with the conditions and methods then prevalent, favorable results were out of the question. Whether these statistics could be improved under our present aseptic methods he did not know, but thought it probable that the mortality could be much reduced. As to Amputation, the statistics in the most important wars of modern times are as follows: In the Crimea, 90 per cent; in Italy, 76.8 per cent; in the war of 1870, 59 per cent; in the American Civil War, 55 per cent. This high mortality would undoubtedly be much reduced were amputation in these cases performed under strict modern antiseptic precautions.

As to Conservatism, this should be, and has been adopted by all military surgeons. Von Bergmann and Reyher were the first apostles of conservatism in the surgery of the joints. In the Franco-Prussian War, they treated these injuries by thorough cleansing, occlusive dressings, and immobilization. Of 15 bad cases so treated, Von Bergmann lost but one, and Reyher had a death rate in similar cases of only 16.6 per cent. Since then, Von Bergmann has been a great advocate of conservatism in military surgery, holding that absolute non-surgical interference on the field with gunshot injuries of the knee joint should be observed. Dr. Borden also believed this to be the best method of treatment of these cases—the use of an antiseptic dressing, immobilization of the limb, and transferrence of the patient for operation, if necessary, to a place where the principles of aseptic surgery could be strictly carried out. The question was not only as to saving the patient's life, but also as to the possibility of rendering the joint movable and useful to him in the future, and statistics have shown that both of these ends are best gained by waiting a short time, until the patient can be put

under the most favorable conditions for operation, when the latter is necessary.

As to the bullet, it should be let alone, unless there are distinct indications for its removal. The bullet does no harm *per se* unless it is septic, which is rarely the case. To produce a second traumatism for the relief of the first, without very good grounds for so-doing, is bad surgery. The case reported, however, is an exception, as the wound was septic. The wound should never be probed under any ordinary circumstances. If done at all, it should be done like any other operation, under strict aseptic precautions. As a general rule though, it were best omitted. The best method to pursue in these cases was to immobilize the part, apply an antiseptic dressing, transport the patient to a place where the conditions were favorable for an operation—should this be found necessary—and await developments. If the wound were septic, it would soon become manifest, and proper steps could at once be taken.

Dr. J. Ford Thompson said that he had seen in the Civil War many cases like that described in the paper, and, as Dr. Borden had said, their mortality was something frightful—so that amputation was commonly performed for all injuries involving the knee joint. Dr. Eliot's case was very interesting, but it partook of the character of the cases often seen many years ago—septic cases: it was a suppurative arthritis such as frequently occurred before the days of antisepsis. His result, however, was good.

As regards the statistics presented by Dr. Borden, he did not think them conclusive as to the value of any one method of treatment; 45 per cent of these cases recovered before the days of aseptic surgery. In civil life, the mortality following these injuries is much less than that in military life. In our late Civil War, almost all kinds of wounds had a large mortality—the surroundings being largely responsible for this. He begged to differ with those who had so far discussed the subject, as to the best method of treating gunshot injuries of the knee, or any other joint, it was the same for all. While Dr. Borden was right in saying that we should not probe these wounds unduly, or interfere with them without placing the patient under the best antiseptic conditions obtainable, to adhere to the rule of non-interference even in emergency, merely put on an antiseptic dressing and transport him to a field hospital, was bad surgery. One might also infer from what he had said that it was not well to interfere with these injuries even under favorable circumstances, but wait and see how things turned out. He differed as to this opinion. Great improvements have been made in modern surgery. It now aims to be preventive. The most successful surgeons of today are not those who wait to operate until danger threatens, but those who, anticipating it, prevent its occurrence. The older surgeons used to wait in abdominal and brain surgery, and their cases died. The best course to pursue is not to punch about, or explore under unfavorable surroundings, but apply an antiseptic first aid dressing, and remove the patient to a place where the conditions are favorable, and then, after one or two hours, not days, as suggested, operate, if this be deemed necessary.

As to allowing the ball to remain in situ, in gunshot injuries of the joints, he thought that this should not be allowed. While bullets do no harm if allowed to remain in many parts of the body, they do harm in the articulations, brain, lungs, intestinal canal, etc., and should be removed from these places as soon as possible, under favorable conditions. The damage inflicted upon the joint tissues by a bullet is often enormous, scattering fragments in the cavity tearing the ligaments, vessels, etc. He believed in taking these cases early, and opening the joint as soon as possible under aseptic conditions, removing all foreign particles, cleaning out the cavity, and applying an antiseptic dressing, and immobilizing the joint with plaster of paris. This method puts the patient under the most favorable circumstances for recovery. To put it off, exposes him to danger.

If, with our present knowledge of asepsis and antisepsis, we cannot operate in these cases, surgery is a failure. If we can do so successfully elsewhere in the body, we can in the joints. Hesitation and waiting he believed to be bad practice. He would, of course, exclude some varieties of injuries to the knee joint, as there are exceptions to all rules, but as a general rule, he believed that more lives would be saved by an exploratory incision, and operation if necessary, than by waiting. The mortality from these injuries seen in the Civil War has never been seen again, and never will be.

Dr. BORDEN said that he thought that Dr. Thompson had misunderstood his remarks. He did, however, differ with him as to the advisability of interfering in these cases. First, because it has been conclusively proven that, as a rule, the ends of the bones are not extensively comminuted · the bullet usually perforates or furrows them, and hence the functions of the joint are not so much interfered with. Garibaldi's case was not a pertinent one, as the bullet had already been in the joint for a long time, had produced a chronic suppurative arthritis, and interfered most seriously with the functions of the joint. Under these circumstances, anyone would have removed it. In very recent cases however, the simplest and safest course was to treat the wound antiseptically, as before stated, and remove the ball afterward. As to immediate exploration, the vital point was as to how it was done. If performed under perfect asepsis the minimum of harm only could result. The production of a second traumatism was an objection, as these bullets are usually aseptic but the rule of non-interference should not prevent immediate operation when operation was indicated. Of course, there are exceptions to all rules, and it is here that the surgeon's intelligence and judgment comes in.

In the second place, these injuries do not often, if not operated upon, permanently injure the joint. This was proved by Von Bergmann and Reyher, many of whose bad cases recovered completely, with movable joints. If there was present in any case the amount of damage which Dr. Thompson depicted, no one would hesitate to open the joint: but ordinarily such is not the case, the joints do not suppurate, and the ball if allowed to remain in situ does no harm.

Concerning cerebral and abdominal surgery—that is a different question, and one which has only an incidental bearing on the class of cases in question.

Dr. THOMPSON inquired whether the principles were not the same whether the patient were shot in the brain, or in a joint. The wound of entrance in former case, as in gunshot injury to a joint, is small, and the wound apparently an insignificant one: yet, would it be good surgery to treat the case simply by the application of an antiseptic dressing. The mortality where this has been done is amazing.

Trephining the small opening in the skull above referred to, has shown the inner table blown into a dozen fragments, which have been scattered through the brain tissue, the meninges torn, hemorrhage has taken place, and the ball has lodged in the internal capsule. Trephine, in such cases, and the patient may recover. It is just the same with gunshot injuries of the joints. Experience has shown that it is best to explore and remove the ball at once if no wound of exit is found. This is the method followed by the best surgeons, the world over.

Dr. LA GARDE said that in his opinion, Dr. Thompson was right in recommending prompt exploration of a joint in which the bullet was suspected to have lodged. Such a ball usually produced sepsis, either from its presence or from the shreds of clothing, dirty skin, etc., which were carried in with it. Bullets are not made sterile by firing, and if one wished to carry out the principles of asepsis, he surely would not leave such a missile in a joint.

The effects upon the tissues of a bullet in the Civil War, and subsequently

up to the time of the adoption of the present service rifle, with its reduced calibre, were entirely different from that which obtains today. In wars in which arms with low velocity, and large calibre were used the damage to joint tissues was great, and fragments of bone, clots, etc., were usually found in the cavity, and it was the duty of the surgeon to operate promptly. Today, a gunshot wound of a joint, e. g. the knee, usually consists simply of a perforation, the ball seldom lodges. Of 20 cases in the recent war, in Cuba, all were perforations, the ball had gone right through. The case is different in civil life, in which weapons of low velocity are used, hence the ball often lodges. In military practice, the ball usually perforates in the middle and distant ranges; it shatters in the near range usually rendering amputation necessary. He hoped to show to the Society cases in which amputation was rendered necessary by the explosive effects of bullets in the near range. One of these wounds was inflicted at a distance of only 10 feet. He did not understand whether Dr. Thompson advised the exploration of all joints.—Answer, "No." Not a single joint had been opened in Cuba for gunshot injury, as the wound inflicted was so small. They were treated by immobilization, antiseptic dressings, and were shipped North. In 20 of such, there were no bad after effects.

Dr. THOMPSON inquired whether the bullets in all of the cases went clear through.

Dr. LA GARDE replied that such was the case. The frontage of the bullet now in use is so small, that it causes no laceration, and makes practically an incised wound.

Hence there was no reason for opening the joint. If the injuries were received at close range, however, the case was different. Senn opened a joint at Siboney thinking he had a lodged ball. In using the probe, it slipped through an opening in a wrinkle of the skin, hitherto unnoticed.

This shows how small the wound of exit may be, a mere fissure, like an opening 0.50 c. m. in length or so.

Dr. KOBER said that he was glad that Dr. Thompson had modified his views upon the subject of the treatment of these injuries. He understood that he advocated operative interference as a preventive measure against suppurative arthritis, and other sepsic complications in all cases. If that is so, he certainly endorsed what Dr. Borden had said. In 1875, he saw a case of gunshot injury to the knee joint, which recovered under conservative treatment, and he was one of the first to advocate conservatism in this class of injuries.

At that time they did not appreciate the antiseptic virtues of corrosive sublimate, but used a solution of iodine, carbolic acid and glycerin—and the case recovered with a fairly movable joint. On the field, operative interference is not justifiable. The traumatism is so extensive, the surroundings so unfavorable, and the risk of infection so great, that conservative methods are preferable. The better way is to wait until the patient has been transported to a place where surroundings are favorable before taking operative measures. Sepsis is not likely to occur after the the application of the first antiseptic dressing, and hence one can afford to await developments. To do otherwise is bad surgery Operative interference upon the field is not a measure which is likely to prove a preventive of sepsis. The results obtained by "primary antiseptic occlusion" quoted by Dr. Borden were certainly remarkable—15 recoveries in 18 cases of gunshot injury to the knee joint, and many of Von Bergmann's cases were complicated with lodgment of bullet and recovered with movable joints. This was stronger than any other argument for conservatism in these cases.

Dr. THOMPSON said that if there was nothing the matter with a joint, of course he would not open it. In the cases mentioned, in which the bullet was small, and there was nothing but a clean perforating wound, he would not interfere. But where there was much damage done to the joint, he would always

operate in civil or military life. Exploration, properly performed, could do no harm. The damage done to the tissues by a modern rifle within a range of 500 yards was greater than that produced by the absolute weapon.

Dr. VAN RENSSLAER said that he was surprised to hear Dr. La Garde say that most bullets were septic when they struck the body, as he thought that the reverse was generally believed to be the case. There are exceptions however to all rules, but the general trend in the treatment of these injuries is toward conservation. He would ask Dr. La Garde if, as he had said, bullets are not sterile, how he accounted for the large number of perforations of the lungs, abdomen and other parts of the body in the late War with Spain with no evil effects, such as sepsis.

Dr. LA GARDE, in reply, asked Dr. Van Rensslaer whether a bullet fired from a gun is septic or aseptic, when it strikes the body.

Dr. VAN RENSSLAER: "Aseptic."

Dr. LA GARDE: "No."

Dr. VAN RENSSLAER: "Why?"

Dr. LA GARDE answered that he had shown that bullets in the original packages were seldom infected. They became infected by the handling they received, and by being placed in an infected revolver, and then being fired into an individual whose clothes and skin were seldom free from germ life.

Germs placed upon a bullet before it was loaded in a gun, remained there after firing, in other words, firing does not sterilize a bullet. Now these germs may be or may not be septic germs. In war, however, all ordinary bullets may be considered to have septic germs upon them. But this does not necessarily mean that they will give rise to sepsis in the person whom they enter, the resistance of the tissues in each individual case must be considered. It does not necessarily follow that because streptococci or staphylococci enter a wound of the lungs, abdomen, or other parts of the body, that sepsis will take place, the resistance of the tissues may be sufficient to throw off infection. The Spanish bullets were infected, and so were the clothes, and epidermis of our men who were shot, but all did not have sepsis, because the resistance of the tissues in some, warded off septic infection.

He believed that much of the former large mortality in this class of injuries was due to probing. The effect of introducing even a sterile probe into a wound infected with septic germs, but which were lying dormant, was to stir up the colonies and make them multiply and grow faster, like the introduction of a glass rod into a culture on agar-agar.

Dr. BORDEN said that practically these wounds were aseptic—they were infected, bacteriologically infected, but not surgically infected—as they healed without suppuration. Upon this the point turns, the difference between the mere presence of bacteria in the wound and septic infection. He was glad that Dr. Thompson was so sure of his asepsis as to feel safe in opening these joints, but any additional traumatism was as menace. Statistics had shown that the best method of treatment was by non-interference.

He believed that even the large slow moving bullets were usually surgically aseptic, and that a large percentage of the injuries produced by them will heal kindly, if let alone. Wounds caused by rifle, revolver, shrapnel bullets, etc., all of which belong to the large calibre, low velocity class of projectiles are not prone to produce suppurative inflammation, unless the wounds made by them are disturbed.

Dr. J. PRESTON MILLER asked Dr. La Garde what the result in Senn's case was: to which, Dr. La Garde replied that the man had been sent North after the operation, and nothing more had been heard of him.

Dr. ELIOT, in closing the discussion, said that he would not discuss the question of infection of these wounds. He did not know the exact reason for which Fowler's Solution had been administered, except that in some way it was thought to antagonize the septic process. For this reason it was much used in the Civil War. Dr. Hartigan read a

paper upon the subject before this Society several years ago. The X-rays were not used a second time because it was not convenient to do so.

His case had been a suppurative one from beginning to end, and at one time he had considered the question of amputating the limb. He did not think that in injuries of this sort we should wait until sepsis sets in. The surgeon is called to do what is best for the patient, and this he should do without regard for statistics. He would as soon open the knee joint in one of these cases, as trephine the skull, and he should expect good results. He could recollect cases in which he had delayed operation upon the joint and later he had to do an amputation.

"Four Cases of Appendicitis," by W. C. Borden, M. D. Published by the author in the Military Surgeon, National Medical Review, November, 1899.

DISCUSSION.

Dr. J. Ford Thompson said that this subject—Appendicitis—came up for discussion one or more times each year and was always interesting. He was glad to say that he would not have to take issue with Dr. Borden as to the views he had expressed. His rule was to operate in every case where no reasonable doubt as to the diagnosis existed, and as a rule they all got well. There ought not to be a mortality of 1 per cent. Most of his cases had been bad ones. Of 5 cases seen by him last August, 3 were of the fulminating variety, and developed within 24 hours. They were all extreme cases, but all recovered. Those cases operated upon during the interval should rarely die. Those likely to prove unfavorable are those in which operation has been put off—say a week or so—and fulminating cases. The last were particularly unfortunate. He lost a case of this kind last spring, the result being largely due to the unfavorable surroundings.

The rule should be to operate early in these cases. One might wait once, but should operate at the second attack, and better at the first. It is particularly unfortuate that the surgeon must often operate under unfavorable circumstances owing to his being called in late. He had been called in last August to a case of appendicitis in a child, and found that a great abscess had formed, which he opened. For a long time a fæcal fistula remained, although the child eventually recovered. This need not have been, had he been called early. The rule should be to operate as soon as the diagnosis is made, don't wait, as some physicians say, until the abscess has formed. Too many die when this is done; whereas the operation is simple and safe, if done before pus has formed.

Dr. Neff said that he was glad to hear the opinion expressed that we should operate early in these cases. The question was, when not to operate. There were two contra-indications to this, acute general peritonitis, and a condition of collapse. He favored early operation now, even more than formerly, as he himself had a fulminating case of appendicitis about a year ago, and would have undoubtedly died had an operation not been promptly perfomed. He was operated upon within thirty-six hours. The appendix was filled with pus, there was a perforation at the caput coli, and peritonitis. He is a living illustration of what aseptic up-to-date surgery can accomplish, in these severe cases.

Dr. J. Ford Thompson related a case upon which he had operated three years ago. He was called at night, and the patient preseuted all the appearances of a fulminating case of appendicitis. The symptoms still persisting the next morning, he opened the abdomen, and found the appendix pointing straight up toward the abdominal wall, and only slightly swollen. He remarked that its condition was not sufficient to account for the gravity of the symptoms; nevertheless, he cut it off. The patient got no better, and a six weeks case of typhoid followed. He was shocked at first at the mistake in the diagnosis, until he read the literature upon the

subject, and found that nine cases of typhoid, manifesting themselves at first in the region of the appendix, had been mistaken for appendicitis. The patient referred to, recovered. This was an interesting case, as the same conditions might present themselves to anyone

Dr. STORCH inquired of Dr. Borden as to the nature of the foreign bodies found in the appendix in the cases upon which he had operated. The belief was common that a foreign body was necessary for the production of appendicitis. As to the treatment, his method was to try first to relieve the patient by the use of hypodermics of morphia, and a cathartic, and then, if the condition were not relieved, he operated on the next, the second day.

Dr. BORDEN replied that no foreign body had been found except in one case, in which a fæcal concretion was removed.

Dr. VAUGHAN said, referring to Dr. Thompson's remarks, that he had never operated for a case of appendictis in a case of typhoid fever, as Dr. Thompson had; but he had operated upon a case of appendicitis in a hernial sac. The inflamed, and enlarged appendix was removed from the sac, and Bassini's operation for the radical cure of hernia was done. There have been reported a number of cases of finding the appendix in hernial sacs, but this was, so far as he knew, the first and only case in which the appendix had been removed from a hernial sac on account of acute peritonitis. His method of treating the stump in appendicectomy was either to cut the appendix off close to the cæcum and then close the opening in the cæcum with two rows of sutures; or to invert the stump without ligation, and then sew up the dimple in the cæcum caused by the inversion. If the stump were inverted after ligation, a pocket would be formed, which might contain pathogenic organisms, and thereby prove a source of danger.

MEETING OF NOVEMBER 1st, 1899.

Dr. BUSEY, President, in the Chair.

The Treasurer presented his report for October 1899 as follows:

Receipts, $112.00.

Disbursements, $105 67.

A letter was read announcing the death of Dr. W. R. Maddox. Dr. Bovée moved that the Chair appoint a committee of three to prepare a memorial, whereupon the Chair appointed Drs. Bovée, E. L. Morgan, and James Kerr.

A letter was read from the Wayne County, Michigan, Medical Society, requesting the co-operation of this society in an effort to "attain the establishment of inter-state reciprocity concerning the license to practice medicine."

The Chair stated that the Medical Practice Law now in force in the District of Columbia contains a reciprocity clause.

Upon motion of Dr. Kober, the President was instructed to make an appropriate reply to the communication.

REMOTE EFFECTS OF GUNSHOT WOUNDS BY THE MAUSER BULLET.

BY LOUIS A. LA GARDE,
Major and Surgeon, U. S. A.

The remarks I am about to make have reference to the ulterior consequences and disabling effects of the Mauser bullet. The Mauser bullet is especially designated because the cases to be exhibited were disabled by this projectile in the recent Spanish-American war. I may add however that the results would have been very nearly the same had the cases resulted from injuries by the reduced caliber bullets from other guns since the mechanical effects of all reduced calibers like the German Mauser,

the Krag-Jorgenson of our service, the Mannlicher of the Austrians, the Lebel of the French, etc., are very similiar when fired into the human body.

The ulterior effects of gunshot injuries from the older projectiles composed of lead which were apt to deform, possessing lower velocities and a larger sectional area are well known.

In dealing with remote effects of gunshot injuries we endeavor to demonstrate some of the ill effects which have remained after the healiug of the wound was accomplished. These disabling effects may be present shortly after the receipt of the jury as in a case necessitating amputation from extensive traumatism, or they may be more or less remote, remaining stationary, or they may increase or diminish with months and years and again iu some cases they may eventually lead to fatal consequences.

The so-called remote effects hitherto studied from the older prejectiles involved : 1. Pain. 2. Secondary disease from lodged foreign bodies. And then again these remote effects were studied from the particular anatomical structures of the body hit, as the blood vessels, the nerves, the bones, the tendons, etc., or they were studied from the disabling effects noted in certain bodily regions as the head, the face, the chest, abdomen and the extremities, etc.

Lodged foreign bodies have constituted the greatest source of protracted suffering in guushot wounds The foreign bodies included the uissiles, or pieces of clothing of the accoutrement, or fragments of anything the soldier or civilian might be carrying at the time he was hit.

Again loose fragments of bones formed a large number among the foreign bodies in wounds.

Of the cases to be studied this evening I can show only one giving the history of a lodged foreign body and that is presumedly a Mauser bullet. Happily, lodged foreign bodies do not cut much figure now days in gunshot wounds from whatever weapon, because of : (1). The revelations of the X-Ray. (2). The military rifles of the present do not so often tear bones asunder leaving loose fragments, (a) their small caliber bullets are less apt to carry pieces of clothing or articles into the wound (b) the projectiles are less apt to lodge, (c) when they do, and when for various reasons they are not extracted they are more apt to become permauently encysted because of their lighter weight and polished exterior. Lastly the clean surgery of today has made the surgeon bold to inquire into the interior of wounds, he is more apt to clear away menacing conditions at the time, than to wait their ulterior effects.

I will now proceed to exhibit the cases. They show ulterior effects upon certain regions, and anatomical parts.

Case No. 1. Pvt. Samuel Redd, Co. I. 10th Cav. received gunshot wound of the brain at battle of Guasimas, June 24th 1898, the projectile, a Mauser bullet entered left parietal bone uear coronal suture, it ranged backward and emerged through the same bone posteriorly at a point which cannot be definitely located. The history of the case is not at present ascertainable. I first saw the man at the base hospital when the surgeons were trephining his skull. I remember that sepsis had supervened, and that there was loss of brain substance. The remote effects, cerebral hernia, and hemiplegia are very apparent.

Case No. 2. Pvt. Patrick Walker, G, 10th. Inf. wounded by a Mauser bullet at San Juan, July 1st, 1898, at a distance

of about 400 yards. Projectile entered front and outer aspect of right knee, 2cm. from upper and outer border of patella, and ranging downwards, backwards and inwards it lodged in the popliteal space whence it was removed July 5th at the Siboney hospital. The scar of entrance wound is oblong 3cm. in length, 1 cm. in width. The ball probably cut the external popliteal nerve as it lies behind the head of the fibula, resulting in inability to flex the tarsus upon the leg, as well as inability to extend the toes. An attempt to remedy the paralysis by suturing the nerve ends in a New York hospital resulted in failure. Judging from the course of the ball the case was more than likely one of involvement of the synovial sac of the knee by fissuring into the joint. The man states that the knee was very much swollen at the time of the injury. There is atrophy of the leg and partial loss of flexion of the knee. The scar at point of exit is painful.

Case No. 3. Pvt. Lewis Gruner, E, 16th Inf. wounded by a Mauser bullet at San Juan, July 3rd 1898, distance unknown. Projectile entered outer aspect right knee joint between the outer condyle and head of tibia and ranging transversely across the head of the tibia. The limb was placed on a posterior splint. Was sent to the base hospital at Siboney, July 10th. The entrance wound is marked by a round scar the size of the projectile; the exit wound by a scar a trifle larger. Flexion of knee very slightly impaired.

Case No. 4. Carl F. Meyer, Co. D. 6th Inf. wounded by Mauser bullet at San Juan, July 1st, 1898, at a distance of 300 yards. Ball entered right foot near ball of big toe, it ranged transvresely across the foot through the metatarsal bones and emerged on the outer side of the foot near the metatarso-phalangeal articulation of small toe. The entrance wound is marked by an eliptical scar about the size of the projectile; the scar at point of exit is larger, irregularly round. There is inability to flex and extend toes; much callus about metatarsal bones. Foot thickened and painful. A Radiograph by Doctor Borden shows splintering of the metatarsal bones. The fragments are displaced laterally following the line of flight of the ball.

Case No. 5. Charley Franklin, Pvt. Co. G. 7th Inf. wounded by a Mauser bullet at San Juan, July 1st 1898. Bullet entered outer aspect of right thigh, 3cm below Poupart's ligament, opposite a point corresponding to the location of the anterior crural nerve, branches of which were probably severed, ranging directly backward it emerged in the buttock of the same side. The scar marking the wound of entrance is slightly oblong, about the diameter of projectile. The wound of exit is marked by a linear scar 1cm in length. On the outer and posterior aspect of the upper thigh there are four small scars which marks the location of splinters of bone detected by the X-Ray and which were removed by the surgeon. The patient states that the fragments were very small. If we have reason to adhere to the rule that the hip joint may be included in a triangle the angles of which are at the spine of the pubes, the anterior-inferior spine of the ileum and the outermost part of the greater trochanter, it may be assumed that this case represents a gunshot perforation without fracture of the surgical neck of the femur, and that the fragments were spiculæ of bones chipped from it which acted as secondary projectiles. There is no shortening. The remote effects were as follows: Slight

limitation of movements at hip joint. Moderate atrophy, stiffness and impaired nutrition of leg.

Case No. 6. Pvt. Robert N. Johnson, Co. F. 3rd Wis. Vol. wounded by a Mauser bullet at Abonita Pass, Porto Rico, August 12th, 1898. He was hit by a ricochet bullet which struck the middle of the anterior surface of the tibia at a tangent making a vertical wound of entrance about 3cm in length. There was splintering of the tibia without fracture at point of impact. The lead nucleus of the projectile and some splinters of bones were removed 4 days after the injury. Two months later part of the steel jacket of the bullet was located by the X-Ray and removed. Two abscesses near the wound were evacuated about this time. The remote effects are painful scar and weakness of the ankle.

Case No. 7. Henry R. O'Malley, Co. L, 8th Inf. wounded by a Mauser bullet at El Caney, July 1st, 1898, 600 yards from the Spanish fire. The wounds were received whilst he was holding his gun in the act of firing. The projectile inflicted a lacerated wound on the radial side of the middle finger of the right hand, ranging backwards it entered the end of the right thumb on the palmar aspect, coursing along the phalanges and metacarpal bone of the thumb it emerged opposite the middle of the latter ; it next glanced on the inner aspect of the corresponding arm, cutting the skin over the middle of the biceps. The wound of entrance in the thumb is marked by a faint vertical linear scar 1cm in length, the wound of exit opposite the middle of the metacarpal bone is irregularly round 1cm in diameter. Remote effects : Loss of flexion of the thumb, middle and index fingers.

Case No. 8. Isom Taylor, Co. F. 10th Cav. wounded by a Mauser bullet at San Juan, July 1st, 1898, while facing the Spanish fire 500 yards off. The projectile entered the point of the right elbow, passing through the olecranon, it ranged forward and emerged 6cm below the bend of the elbow. The wound of entrance cannot be judged by the scar as it was enlarged by the knife. The wound of exit is marked by a scar irregularly round 2cm in its greatest diameter. The projectile caused a complete perforation of the ulna. There is partial loss of flexion, pronation fair, supination much impaired. The man states that the ball entered the front part of the arm and emerged posteriorly. This is doubtful from the character of the lesion in the olecranon the remains which show a round depression such as might have been left after a perforation by a small caliber bullet. The scar in the forearm is more like that of a wound of exit. If he was wounded from behind, as is likely, the injury was very probably inflicted by a Krag-Jorgenson bullet from our own men.

Case No. 9. Denis B. Watson, Co. G, 1st. Cav. wounded at Guasimas by a Mauser bullet, June 24th, 1898. The projectile entered dorsal aspect middle right forearm and ranged upwards and inwards, emerging near the bend of the elbow, it reentered the body in the right abdominal wall at a point half way between the anterior superior spine of the ilium and umbilicus. The ball remains lodged presumably. The wound of entrance in the forearm is marked by a faint round scar corresponding in diameter to that of the projectile, the wound of exit near the bend of the elbow is marked by an irregular scar 3x2cm. The wound in the abdominal wall is

marked by an elliptical scar 2 1-2cm in its greater diameter. There is loss of supination of forearm. The radiograph of the forearm shows guttering of the radius with spiculæ projecting in the direction of the bullet track. The X-Ray failed to locate the projectile in the body.

DISCUSSION.

Dr. REYBURN said the contrast between the results obtained in these joint injuries in the Civil War and in our late war with Spain is wonderful. In the Civil War, nothing was known of antisepsis, or the proper methods of treating wounds. Water dressings were applied to all alike,and the mortality was frightful. He had served for over a year in a hospital in Alexandria, and was there when the wounded from the second battle of Bull Run and other great battles were received ; the two battles of Fredricksburg, Va., Cedar Mountain and Chantilly. There was any amount of surgery, but awful results. One case in which he had performed an amputation for injury to the hip joint recovered, and it was considered a wonder. Finally, they got tired of the results of amputating limbs, and treated 27 cases of gunshot wounds of the knee joint conservatively, and he was sorry to say that all but two died. In operations upon the larger joints of the body the mortality was nearly 75 per cent.

When we look at these figures, we can appreciate the wonderful advance which the principles of asepsis and antisepsis have brought about in modern surgery. Had we known then what we do now, 100,000 of the 300,000 victims who died from wounds received in the Civil War could have been saved. The best possible was done with the light we had, but the results were very bad.

What we should have done was to have covered the hills around Alexandria with tents, and used tent hospitals. Instead of that, however, churches, houses, hotels, etc., were used, and the patients were massed in them, and all suffered more or less from overcrowding. After the second battle of Bull Run, more patients were brought to the hospital than could be taken in ; 2200 such patients were fed upon the streets of Alexandria, after which, they were sent elsewhere. One can hardly appreciate now, the difference between present results, and those of the Civil War. Dr. La Garde had said that out of 284 wounded in the late war, only one died, a marvelous result.

Dr. NEFF said that the result in gunshot wounds depended not only upon the size of the projectile, but largely upon who saw the case first, dirty fingers and probes being responsible for many unfavorable results. During the Cincinnati riots some years ago, over 300 cases of gunshot wounds were treated at the Cincinnati hospital. These wounds were made by the Springfield rifle at a range of from 50 to 300 yards. The worst sort of compound fractures were produced, the long bones being shattered throughout their entire length, and joints being smashed all to pieces.

In many instances, amputations and excisions were promptly made, and when efforts at conservatism were attempted, it was necessary, eventually, to employ the same radical treatment. In contrast with these cases, the results obtained in our late war with Spain were very different. Dr. Neff and his colleagues treated 284 cases of gunshot wonds at Fort McPherson, Ga., with only one death.

The fatal case was that of a man whose arm had been amputated in Cuba for a shell wound, and arrived with an infected stump. A second amputation was made at the shoulder, but he died in a few days from septic infection. The other cases arrived in good condition, so far as their wounds were concerned, which was due to the care that they had received on the field, the employment of the first aid dressings, and avoidance of meddlesome interference.

Many of the wounds were of a most serious character. One man was shot through the left eye, the ball making its

exit behind the ear, evidently having penetrated the brain. He recovered with the loss of his eye. Dr. Neff had ligated the femoral artery for an aneurism due to gunshot wound, with a perfect result. Joint injuries all did well. Many of them were operated upon for necrosed bone. Repair was prompt, and movement excellent. There is certainly no comparison between the wounds produced by the old service rifle, and the modern arm.

Dr. BORDEN said that the two principal factors in these cases were the missile, and the treatment which the patient received. He was glad that Dr. Reyburn had emphasized the importance of proper treatment as he had seen the results of these wounds in the Civil War. Undoubtedly, the missile has a great effect upon the outcome, but the treatment has more. Relative to the ultimate result in certain instances, one of the cases shown by Dr. La Garde is of especial interest, that of the man in whom the bone is but slightly involved, but the disability is considerable, this being due to the destruction of the soft parts by the bullet. The modern arm does much harm to the soft parts in some cases. Cicatricial tissue takes the place of that destroyed, this tissue subsequently contracts, and disability results.

Stephenson, in his recent work upon "Gunshot Wounds in War," says that all wounds of the hip joint should be explored immediately. Were he writing at the present time, after our experience in the Spanish-American War, he would undoubtedly reverse his statement. The mere fact that a gunshot injury to a joint has occurred does not necessarily warrant its immediate exploration. As Dr. La Garde had said while gunshot wounds are often surgically aseptic, bacteria are always carried into the tissues, and the effect of exploration is to stir up these bacteria, and to cause them to grow and multiply more rapidly, whereas, if the wound be left alone, the tissues may take care of the infection. The results of interference in gunshot wounds of the hip in the Civil War were frightful. The same may be said of the Franco-Prussian War, in which the mortality in excision was 83.8 per cent; in those treated conservatively, 71.5 per cent; and in amputations, 100 per cent. This speaks badly for interference. The same is true of all joint gunshot injuries; in fact the low mortality in recent years has been largely due to modern expectant, and conservative methods.

Dr. VAN RENSSELAER asked Dr. La Garde as to the result of treatment employed in the Turco-Grecian War. Was the general method of treating these cases the same as in our recent war? And what the results? A comparison with our treatment and results would be very interesting.

Dr. LA GARDE replied that he had never seen statistics upon this subject, and doubted whether any had been prepared. He had read some comments upon the war in Senn's book, but little in the way of statistics was given.

Dr. LA GARDE, in closing the discussion, said that while it was true that the small caliber bullet was the more humane, and less destructive in its effects than the large lead bullets of the Springfield rifle, nevertheless it was capable of producing great injury to the body at proximal ranges.

We owed it to the Spaniards that we did not see more of its evil effects. They retreated from trench to trench just at the time that the fire would have been most destructive—within 300 yards. Had they stood their ground, we would have found out what this rifle was capable of doing at close range. In reckoning upon destructive effects we must always bear in mind two factors, 1, resistance on the part of the tissues: 2 velocity on the part of the projectile. Two things offer resistance in the human body, viz: bone and water. With reference to the former we find the greatest amount of resistance in the compact substance of long bones: and with reference to the latter we find the greatest resistance in the loaded alimentary canal the liver, spleen, kidney and heart.

Continued in February number.

Winter Colds

and all CATARRHAL CONDITIONS of the NASO-PHARYNX, whether acute or chronic, are speedily relieved and permanently Cured by the use of FIRNOL COMP.

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DOES NOT NAUSEATE. DOES NOT AFFECT THE TEETH.
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Gaule and Macallum clearly proved the absorbability of inorganic iron and Herschel prefers inorganic iron to the so-called organic mixtures.

ONE CASE OF A SERIES. SEE THERAPEUTIC NOTES.

MICROSCOPIC REPORT OF TREATMENT BEGUN OCT. 19. 99.

1st	Examination,	October	19/99,	Red	Corpuscles	3,200,000,	Haemoglobin	86%
2nd	"	"	30/99,	"	"	3,650.000,	"	88%
3rd	"	November	9/99,	"	"	3,900,000,	"	88%
4th	"	"	18/99,	"	"	3,900,000,	"	90%
5th	"	"	28/99,	"	"	4,200,000,	"	96%

Send for Clinical Reports and ℥ viii Sample and prove Therapeutic value by a trial.

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Therapeutic Notes.

Vaccination.

A most amusing absurdity threatens to occur in, town not far from Cleveland. The health-officer of the town has been so unfortunate as to experience a large proportion of unsuccessful vaccinations. He attributes this to the poor quality of the virus that he has employed, although other physicians in the same town, using the same make of virus bought from the same drug stores, have experienced succesful results. In order to show his authority, his contempt for the opinion of his professional brothers, and his detestation of the fraud that he alleges has been practiced upon him, he now asserts that he will sue for damages the druggists who sold the virus, and that he will compute damages at the rate of 75 cents for every unsuccessful vaccination. Beyond making himself additionally ridiculous, it is difficult to see any result that he may achieve from this procedure.

Vaccine is a perishable commodity and care in its employment is imperatively demanded if successful results are usually to be attained. Experience suggests that probably a vaccination may fail in a susceptible subject, if the area of operation is cleaned with a strong antiseptic, for the virus will not stand contact with an antiseptic. Many failures are also due to lack of care in storing the vaccine in the drug store. The glycerinated virus, which is undoubtedly the best, should always be stored in a cool place, for even at so moderate a temperature as 70° F. it may become spoiled. Then of course the virus must be fresh, as it deteriorates with time. Another possible source of failure to secure a positive result from vaccination lies in the method of dressing the wound immediately after the operation. Undoubtedly an antiseptic dressing applied too soon may destroy the activity of the virus. Yet the glycerine is so slow in drying that the operation would be made too tedious by waiting until the

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A Successful Treatment of Consumption.

Much benefit has resulted from the universal discussion of tuberculosis brought out by announcements, in recent years, of proposed specific cures of the disease. Among other things, it has been instrumental in convincing the thoughtful members of the profession that this is not necessarily a fatal and incurable disease.

Phthisis pulmonalis is, preeminently, an insidious disease. In this fact lies the explanation of the prevalent views as to its absolute fatality. There is no distinct time when health ends and disease begins. Yet there comes a time when the patient and his friends awaken to a realization of the fact that he is a victim of pulmonary tuberculosis. By this time the coarse and graver lesions have become established that make the condition evident to all who observe, and the patient goes rapidly down to death. But long before this were the incipient conditions, which are now recognizable by the more scientific means of accurate diagnosis developed in recent years. During this period the disease is quite amenable to curative treatment.

Another benefit produced by this general discussion has been the final acknowledgment of the value of a method of treatment which, although old, and established in the minds of a few advanced practitioners, yet was not hitherto sufficiently known to the general masses of the profession. This is the specific treatment by the use of the hypophosphites of lime and soda.

A few words as to the rationale of this cure will, we think, place it in a clear light.

It has been observed by the highest authority, that sufferers from rheumatism or gout are particularly immune from phthisis. This has been found to be a peculiarity of those possessing the arthritic diathesis, or who are subject to general fibrosis. Loomis observes that of 70 cases of cured phthisis coming under his personal observation, 52 presented well-marked evidences of general fibrosis. Trudeau reports 21 cases of recovery in which arthritic fibrosis existed, either in the parents or the patients themselves. Now, a patient who has not the lithemic or arthritic diathesis, when attacked by tuberculosis, must be placed under such artificial conditions as favor the formation of calcareous deposits in all diseased areas, the throwing up of a fibrinous wall around the tubercular focus, and thus secure a complete limitation of the disease. This has been abundantly proven to be the result of the use of the hypophosphites of lime and soda. This may be regarded as the production, to a limited extent, of an artificial lithemic diathesis—a conservative fibrosis. Thus the disease is at once stopped in its ravages, and by the very process sought for by other methods of treatment—the cicatrization of cavities and the calcification of diseased foci and their complete isolation from the neighboring sound tissue by a protecting fibrinous wall, or capsule.

Thus we see the chemical researches of Churchill verified by modern pathology, and his conclusions finally accepted as true.

It now remains for you to be sure that you get the pure hypophosphites. Prescribe McArthur's Syrup, which consists of the chemically pure hypophosphites of lime and soda, incorporated in a wholesome syrup. A sample will be sent you, free, upon receipt of 45 cents in stamps to pay express charges. Address, The McArthur Hypophosphite Co., Ansonia, Conn.

Dynamite

Is an annihilator

So is Nytroglycerin. It

BREAKS UP ASTHMA

almost magically.

Combined with Strychnine and Morphine it is the most successful because the most rational physiological treatment of the asthmatic paroxysm.

The attack is jugulated at once.

Our hypodermic tablets of

	Nitroglycerin	$\frac{1}{110}$ gr.
	Strychnine Sulph.	$\frac{1}{100}$ gr.
or	Nitroglycerin	$\frac{1}{50}$ gr.
	Strychnine Sulph.	$\frac{1}{50}$ gr.
or	Nitroglycerin	$\frac{1}{50}$ gr.
	Strychnine Sulph.	$\frac{1}{50}$ gr.
	Morphine Sulph.	$\frac{1}{20}$ gr.

are most earnestly recommended.

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PAPINE IS THE PAIN-RELIEVING PRINCIPLE OF OPIUM. ONE CAN DISPENSE WITH OPIUM THE NARCOTIC; ONE CANNOT DISPENSE WITH OPIUM THE PAIN-RELIEVER. PAPINE PRODUCES NO TISSUE CHANGES, NO CEREBRAL EXCITEMENT, NO INTERFERENCE WITH DIGESTION.

Sample (12 oz.) Bottle Ecthol Sent Free on Receipt of 25 Cts. to Prepay Express.

FORMULA:--One fluid drachm is equal in anodyne power to 1-8 gr. Morphine.

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Pleasant After Effects.

Indicated in every condition requiring an action or natural stimulant to tardy internal functions, stomach or intestines.

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TO GUARD THE HEART

In the treatment of Febrile, Nervous and Chronic Diseases, and as a Remedy in Functional Disorders of the Heart and Circulation.

Each Pillet represents one one-hundredth of a grain of Cactina, the active proximate principle of Cereus Grandiflora (Mexicana).
DOSE—1 to 3 pillets.

USE

CACTINA is no longer an experiment. Physiological writers and the medical profession recognize in it the safest heart tonic in many conditions.

CACTINA PILLETS.

Sample mailed free to physicians.

Artificial digestive agents, such as pepsins and pre-digested foods, are temporary expedients. In treating chronic dyspeptics

SENG

increases the secretion of the digestive fluids, relieves congestion of the mucous coats of the entire alimentary canal and restores the assimilative processes. Dose—one teaspoonful before meals; the dose before breakfast preferably in hot water. Samples to physicians who will pay express charges.

SULTAN DRUG CO., Manufacturers of Cactina Pillets and Seng, St. Louis.

(Continued from page 504.

virus had dried in sufficiently to warrant the application of a protective dressing.

The safest technic for vaccination seems to be about as follows: Scrub the arm thoroughly with soap, brush and hot water; dry it with a clean towel; then wash the skin with alcohol or ether; after applying the virus to the wound, place around it a perforated piece of one-quarter inch gummed felting that will keep from contact with the wound the overlying surgical dressing. As this ring is not usually very comfortable, it may be removed in a few hours, and the vaccination wound simply covered with a clean protective dressing. With this technic and with vaccine from a reliable laboratory, not many failures will occur among susceptible cases. *Reprint from Cleveland Journal of Medicine, Dec., 1899.*

Cumulative Evidence.

W. N., male, age 17 years, anæmic, undersized and consumptive. Under treatment for more than a year during which time he was unable to properly perform his duties; has had a variable appetite and was often languid, believing that if his blood could be improved his general health would be better he was given "iron, quinine and strychnia," afterward the "syrup of iodide of iron," but showed no improvement. On Oct. 23rd '99 his blood was examined by means of the Thoma hæmocytometer and Gower's hæmoglobinometer.

Just before beginning "Aromatin" his blood showed

1st. Examination October 23, 1899, Red Corpuscles 3, 950,000 Hæmoglobin 35 per cent.

2nd. Examination November 7 1899, Red Corpuscles 4,187,500 Hæmoglobin 50 per cent.

3rd. Examination November 15, 1899, Red Corpuscles 4,250,000 Hæmoglobin 58 per cent.

4th. Examination November 22, 1899, Red Corpuscles 4,165,000 Hæmoglobin 64 per cent.

5th. Examination November 30, 1899 Red Corpuscles 4,612,000 Hæmoglobin 70 per cent.

Irregularity at the end of the third week was due to an attack of proctitis. At present he enjoys his meals, is less pallid than he was at the beginning of the treatment, although he is consumptive and in all probability will continue so to the end of his life, he gets more enjoyment out of life than he did formerly.

Bromidia in the Treatment of Epilepsy.

The *New Albany Medical Journal* for November, 1898, contains an article on "Epilepsy Treated by the Use of Bromidia," by T. Edward Converse, M. D., of Louisville, Ky., which, after discussing the use of medicines chiefly relied upon in the treatment of that disease, and giving the needful hygienic measures in considerable detail, concludes by referring to "the question often raised: How long will the patient have to keep up the treatment?" If the bromides are given, they should be continued for at least two years after the last convulsion, or if combined with the chloral hydrate in the form of bromidia, a year and a half is sufficient in most cases. If the patient is having several attacks during the day, a teaspoonful of bromidia after the attack and repeated in an hour will abort the next attack; but, as a rule, one teaspoonful will be sufficient *Sanatarium*, April, 1899.

Peacock's Bromides.

I have prescribed Peacock's Bromides and found it to be one of the finest and most reliable remedies ever produced. Used it in my practice and found it very beneficial in cases of "Cerebro Spinal Meningitis" during the severest attacks. It does not only help in restoring the brain functions but helps greatly in reducing fever. Will also state that Peacock's Bromides can be used in cases where "nervous attacks" are most severe. I will close by stating that I will still continue its use wherever it be indicated.

ROBERT E. MCDONOUGH, M. D.
Louisville, Ky.

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KEEPS INDEFINITELY.
Prepared only for the Medical Profession.

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which is indicated whenever iron in any form is to be administered.

Put up in tablet form only, coated, 150 tablets in a bottle and in the following combinations:

Feralboid Plain,
Feralboid and Quinine,
Feralboid, Quinine and Strychnia,
Feralboid and Manganese.

On receipt of $1.00 we will send twenty-five of each of these tablets, carriage prepaid, to any part of the United States.

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Literature on application. DANBURY, CONN., U. S. A.

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A Perfect Antiseptic Ointment for Surgical Uses.

Prepared Only for the Medical Profession.

FORMULA: Hydrargyri Bichloridi, Oleum Eucalyptus, Formalin and Benzo-Boracic Acid, combined with a perfectly STERILIZED Petroleum base.

Literature on application.

A one pound jar will be sent, carriage prepaid, on receipt of one dollar, to any part of the United States.

THE ARGOL COMPANY, Chemists,
DANBURY, CONN., U. S. A.

A New Clavicle Splint.

H. L. Taylor, (*Pediatrics*, Dec. 1, 1899) describes a new clavicle splint which he says consists of two convex, pear-shaped, hard-rubber pads, fitting into the depression in front of the shoulders, and joined by a rigid adjustable bar, curved forward so as not to touch the chest. Each pad carries a buckle above and a strap below. The back piece, to which the front piece is buckled, consists of a stiff piece of sole leather, lined with chamois and a layer of padding, and provided with straps at the upper corners and buckles at the lower. The back pad is large enough to overlap the posterior borders of the scapulæ an inch or more, and to reach from the root of the neck to well below the axilia. When applied to a case of fractured clavicle the splint is set as wide as possible and buckled snugly into place. This forces the shoulders back by a double action, the backward pressure on the humerus of the pads in front, and the forward pressure of the large pad behind, upon the inner margins of the scapula. After the apparatus is settled into place the curved bar in front can always be lengthened an inch or more, and a wider splint is invariably required than the surgeon expects, unless he has had previous experience. When properly applied the arm can be used, at least during most of the treatment; and it is the only splint known to the writer which permits the use of the arm. A sling is necessary only for a few days, and sometimes not at all. The apparatus acts as an independent shoulder girdle, assuming the function of the clavicle.

The writer has treated a number of cases of fracture and dislocation of the clavicle with this apparatus during the last eighteen years, and has always found that it held the fragments in better position, and was more comfortable for the patient than any other dressing. *Medical Age*, Detroit, 1899, xvii, 945.

The Value of Hypophosphites in Treating Consumption.

Barella, *Le Scaepel*, December, 1899, observes that there is not a single French or foreign medical journal that has not published cases conclusive as to the therapeutical value of the hypophosphites in every stage of consumption. Many of these cases are from reports of public hospitals. In the present state of science no physician of experience will deny that such treatment produces remarkable, sometimes almost immediate beneficial effects in many instances. This is true in spite of the fact that consumption is quite generally regarded as incurable, and is known to be the direct or indirect cause of the death of one-third of the adult population. The benefit of treatment with hypophosphites is always greater in proportion as the disease is less advanced.

In this country physicians have found the following a most agreeable and effective mode of administering a pure, bitter tonic in the earlier stages of consumption:

R. Syrup of Hypophosphites Comp. (McArthur), Oi
Tinct. Gentian 2 oz.
M. Sig. One dessertspoonful before each daily meal in a little water.

Seng.

I will state that I took Seng myself for stomach troubles and found it to be an excellent preparation, corrective of all dyspeptic symptoms and a builder up of the system.

D. M. Blue, M. D.
Keysville, Fla.

Operatic Singers.

Operatic singers, lecturers, preachers and public speakers, have learned that the surest way to a clear and vibrating voice is through the use of Firnol Comp. This pure and perfectly trustworthy compound is administered by spraying. It at once clears up all huskiness and if used frequently will rapidly abort that bane of humanity—a cold in the head. It is equally efficacious in all catarrhal inflammations of the upper air passages—whether acute or chronic. Indeed, the most remarkable results from its employment have been observed in chronic atrophic rhinitis and similar intractable conditions.

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LIQUID ANTIPYRETIC

Indicated in

TYPHOID FEVER, RHEUMATISM, LA GRIPPE, PNEUMONIA, HEMICRANIA,

Each fluid dram contains chemically pure: Phenacetine, 1 gr.; Salol, ½ gr.; Cit-Caffeine, ½ gr.; Acetanilid, 1½ gr.; Tartaric Acid, ½ gr.; Soda Bicarb., 1 ½gr.
Dose—One teaspoonful every 2 to 4 hours.
No Cardiac Depression Following Its Use
ANTIPYRETIC, ANALGESIC, ANODYNE AND ANTALGIC.

FIRWEIN (TILDEN'S)

Useful in

CATARRH, BRONCHITIS, ASTHMA, CHRONIC CYSTITIS, PLEURISY, CONSUMPTION AND ALL DISEASES OF THROAT AND LUNGS.

Each fluid dram contains: Phosphorus 1-100 gr.; Iodine, 1-6 gr.; and Bromine, 1-6 gr
Dose—One teaspoonful four times a day

RELIEVES

CHRONIC CYSTITIS.

ELIXIR IODO BROMIDE OF CALCIUM COMP. (TILDEN'S)

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Composed of chemically pure Bromine, Iodine, Chlorine, Calcium, Magnesium, Iron, Sodium, Potassium with tillingia, Menispermin, Dulcamarin, Rumicin and Conicin. These drugs are not chemically united, but held in uniform solution by an elegant menstruum, which is a product of the Tilden laboratory.

Prescribed by the foremost men in medical circles in cases of

SYPHILIS, CHANCRES, SCROFULA, ABSCESSES, CARIES AND NECROSED BONE.

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BLOOD INTRODUCTION

In all anaemic, consumptive and dyspeptic patients, where there is a lack of ability to *produce* good and sufficient blood, why not *introduce* it?

BOVININE

is live blood—blood of fullness, energy and integrity, arterial blood of the healthy bullock. It is the physician's greatest auxiliary. Prepared by cold process. Antiseptic and sterilized. Try it per rectum when the stomach is unavailable. Try it per sub-cutaneous injection when collapse calls for instantaneous blood supply. Send for our scientific treatise on topical and internal administration, and reports of hundreds of clinical cases.

THE BOVININE CO.,
75 West Houston St., New York.

LEEMING MILES & CO., MONTREAL. Sole Agents for the Dominion of Canada.

Chronic Dyspepsia ,Successfully Treated With H_2O_2.

George A. Gilbert, M. D., Danbury, Conn. The case herewith subjoined is one of interest on account of its typical character, its long-standing, and its speedy recovery on the adoption of a rational treatment.

Peter H., aet. 40, Hungarian, farm laboror, applied for treatment at my office on July 1, 1899. He was a strapping fellow, mostly skin and bones, of about 170 pounds weight, and would not have been thought ill except for the prominent dark rings under his eyes, his injected conjunctivæ, and a drawn haunted expression on his countenance, indicative of past trouble or imminent danger. The history he gave was somewhat as follows :

Six years previously, on his voyage to this country, he suffered from an attack of acute gastritis, attended with retchings of the most violent character. Soon after landing he recovered sufficiently to attend to his work ; but he says he has "never been the same man since." In all this long period he has not eaten "a good square meal," nor enjoyed what he has eaten, the burning pain in the epigastrium, after meals, becoming so great occasionally that for fear of its repetition he has gone without food for two or three days at a time. Belching of enormous quantities of gas, too, is common with him soon after eating, thus evidencing the presence of undigested food with its resultant fermentation. The patient states, that in order to get relief he has spent all of his wages upon various doctors, specialists, quacks, nostrums, etc., and swears that he is worse today than on the day he first landed in this country.

On examination it was found that he was slightly feverish, pulse rapid, tongue flabby and heavily coated, while the teeth and entire cavity of the mouth were covered with a foul-smelling sticky mucus. That the stomach received, in the process of starch digestion, little or no assistance from the salivary glands of the mouth was plainly apparent. In deciding on the mode of treatment it was obvious that lack of the usual amount of gastric secretion must be met by restoring the physiological conditions upon which the secretion depends. In other words, in order, to relieve the inflammatory conditions of the gastric mucous membrane and restore the function of the peptic glands, antiseptics were required. The patient therefore was furnished with a flask of Ozonized water, made of one part Hydrozone to four parts of water, and directed to wash out his mouth every night and morning, thoroughly cleansing the tongue, teeth and gums of the unhealthy mucus and any pathogenic germs it might contain. To destroy the microbic elements of fermentation in the stomach and dissolve the tenacious mucus there, a mixture of one ounce of Hydrozone with two quarts of sterilized water was made, and half a tumblerful directed to be taken half an hour before meals. Having thus procured a clean surface in the stomach, the patient was advised to take immediately after meals, a drachm of glycozone, diluted in a wineglassful of water, for the purpose of enhancing cellular action and stimulating healthy granulations. Of course he was ordered to select his food with care and eat regularly.

The result of this simple procedure was magical. Although for the first two or three days there was some discomfort after eating, this soon disappeared, and at the end of a fortnight the patient reported that for the first time in six years he was enabled to eat his meals without dread of subsequent distress and eructations of gas. (In the opinion of the writer the fermentation was thus quickly subdued by the active oxidation resulting from the liberation of nascent oxygen.) The treatment was continued in this manner for another month and then gradually abandoned. On September 1st, the patient came to the office, expressed his eternal gratefulness, said that he weighed 185 pounds and believed himself to be completely cured.—*New Eng. Med. Monthly*, Dec. 1899.

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The Therapeutic Uses of Epsom Salts.

Dr. J. C. Culbertson says that notwithstanding all that has been written and stated so favorably as to the use of this potent remedy, he is inclined to believe that it is not yet fully appreciated for its many virtues. It may seem strange and even presumptuous to say this, in view of all that has been said, and in the face of the fact that sulphate of magnesium has become a universal domestic remedy. However, as used by the people, it is only as a simple, safe purgative that it finds place in everyday family use. In this rank it holds precedence always. As a purgative, its most common administration is in the morning, and in a dose of from half an ounce to an ounce. This may be greatly improved upon by giving from half a drachm to a drachm, administered in a pint of water. The mechanical effects of the water are beneficial and aid in establishing increased peristaltic action of the bowels. The remedy, when given in this manner, is peculiarly cooling and refrigerant. The same dose given at bedtime rarely acts even as a laxative, but becomes a most excellent diuretic, and also stimulates the skin so as to literally rid the body of accumulations of detritus, wherever they may be located. This is a property possessed in a high degree by sulphate of magnesium. In fact, it may be placed at the very head of the column of diuretics, as certain, safe, and mild in action.

For a cure of dysentery it comes nearer to being a specific than any other remedy at our command. In giving it in this disease from a drachm to an ounce may be used. If large doses are given the discharges are apt to be stopped too abruptly; a drachm is better than an ounce and may be repeated every hour or two.

For the relief and cure of sick headache it should be given in doses of from half a drachm to a drachm every morning, dissolved in a goblet of water. Equally good results or even better may be obtained by administering it at bedtime. The goblet or pint of water should be insisted on with every dose. The temperature of the water may be that which is most agreable to the patient although Dr. Culbertson thinks warm water, say 100° F., more potent than that at a lower temperature.

In cases of hæmorrhoids and all congested conditions of the rectum and other pelvic organs, sulphate of magnesium is almost a specific in a large number of instances; where the patient is troubled with flatulence, the addition of peppermint to the salt solution is very effective in affording relief.

In gynæcological cases, and particularly in peritonitis, sulphate of magnesium is again found at the top of the column of useful remedies. As a cholagogue it is also in the front rank. *N. Y. Med. J.*, 1899, lxx, 866.

Fruit Soup.

Any new palatable food is a distinct addition to the physician's resources, and the following is from *Good Health*, July, 1899:

"Take one quart of gluten stock (prepared by boiling two cups of good wheat bran in three pints of water until reduced to one quart,) one cup of dried apples, previously cut into small bits, and stewed until tender and the juice evaporated; three-fourths of a cup of currant juice, three-fourths of a cup of pineapple juice, one tablespoonful of sugar, and a little grated lemon rind for flavoring.—*Med. Review of Reviews.*

Lavage for Headache.

Peck (*University Medical Magazine*), in an article upon the treatment of headache, calls the attention to Herter's method of washing out the stomach for migrainous headaches. The stomach—even if empty—is washed out with water at a temperature not less than 105° F. When lavage cannot be used, hot water should be drunk. The procedure relieves the pain, and if used at the outset may abort the attack. The rationale of the method is not clear, but may be explained as the relief of an exhausted nervous system from toxic material in the stomach. *Maryland Medical Journal.*

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Treatment to Increase Mammary Secretion

From "Sajou's Annual and Analytical Cyclopedia of Practical Medicine," Vol. I, we quote as follows :—

"The bowels should be regulated by proper dieting and massage or exercise rather than by laxatives, and it is highly desirable that there should be at night uninterrupted sleep for six hours for mother and child. Galactagogues are valueless in the majority of cases, most of them exerting practically no influence upon the gland. Occasionally a slight stimulating effect may be noted, but this lasts only a short time, and the organ soon lapses into its former torpor. Beer, ale, porter, and other malt liquors, especially alcoholic beverages, are more hurtful than beneficial, and what improvement may show itself is due mainly to the confidence in the beverage taken, through the agency of auto-suggestion. The quantity of milk may be increased, but its quality is compromised, especially when poor beer is cousumed by the mother. It encourages the production of fat at the expense of the casein of milk sugar. Pure malt may be substituted with great advantage.—*Modern Medicine.*

To Make Beef Tea.

Take a pound of beef from which all the fat has been removed. Cut it into very small pieces and put into a preserve jar with half a pint of cold water. Cover the jar and let it stand by the fire for an hour. Then place it in a pot containing enough hot water to rise to the same level with the meat and water inside the jar. Put the pot on the fire and let it simmer (not boil) at least three hours. As the water in the pot evaporates add more. Strain the broth through flannel, and season with pepper and salt to suit the taste. If only a very little beef-tea is required at a time, strain what is wanted and set the jar into the pot of hot water, and keep it warm. *Dietetic and Hy. Gaz.*

Bathing in Arteriosclerosis.

Formerly it was with great hesitancy that any therapeutic baths were used in arteriosclerosis, because of a fear that the already high blood-pressure would be increased and very unfortunate results follow. Loebel (*Munch. Med. Wochenschrift*, July 8, 1899) is of the opinion that the small increase of blood-pressure occurring in baths need not be considered in comparison with the relief they afford from many of the unpleasant symptoms attending the condition, such as vertigo, insomnia, the epileptic and apoplectic attacks. Notably are the complications pertaining to the heart improved—the asthma and angina pectoris. Moreover, mud or peat baths instead of increasing very often decrease the blood-pressure as much as fifty per cent, and prove valuable as a sort of peripheral massage. The author also uses mud baths with good results in uterine hemorrhage and in the rheumatoid pains due to sclerosis of the arterial coats. *Medical Age*, Detroit, 1899, xvii, 596.

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A Cathartic for Hypodermic Use.

In a study on the physiology and pharmacology of the caffeine group, George Cohn (*Berl. Klin. Woch.*, No. 40, p. 885) takes up chloral caffeine, a chemical combination of caffeine with chloral hydrate, easily prepared by gradually mixing a solution of 300 parts of chloral hydrate in 300 parts of hot water with 380 parts of caffeine.

The compound separates in thick scales, which can be crystallized out of a watery solution at 30°. Chloral caffeine is easily decomposed. As a diuretic it has afforded but indifferent results, but in obstinate constipation it proves a cathartic of decided value. Two to four decigrammes in watery solution injected hypodermically, and repeated if necessary within two hours, is followed shortly by the voiding of soft mushy stools. Practically painless, the injection produces at most a slight burning, which endures only from one to three hours. Chloral caffeine also relieves the pain and swelling incident upon rheumatic arthritis. *Medical Age*, Detroit, 1899, xvii, 954.

Beef-Tea--Another Method.

Take one pound of raw beef, minced, for each pint of water. Stir, while cold, and let it stand one hour. Then place the vessel in which they are mixed in a pan of water and let them simmer for another hour over a slow fire. If allowed to boil it becomes gluey, and is not equally nutritious or digestible. Strain the tea through a coarse strainer and flavor at discretion.—*Dietetic & Hygienic Gazette.*

Treatment of Soft Chancre by Means of Steam.

E. K. Manfawovsky (Vratch; *Journal of Cutaneous and Genito-Urinary Diseases*, July, 1899) says in eighty-nine cases of chancre the diagnosis was made clinically, not by demonstration of the Ducrey bacillus. Among them, twenty were accompanied with buboes and one with necrosis. The localization was on different parts of the penis. The author placed the end of Professor Shegirer's steam apparatus at a distance of four to eight centimeters and subjected sore to the action of the escaping steam (50° to 60° C.) for three to ten minutes. The surrounding healthy tissues were protected by means of gauze. After from one to two minutes the floor and the edges of the sore under the influence of the steam became pale, then rose-like in color. Later, after three to four sittings, the sore begins to bleed, and takes on a healthy appearance. A complete cure was obtained by the author after ten to fifteen sittings. *Medical Age*, Detroit, 1899, xvii, 590.

Hot Sand In Therapeutics.

The chief indications for the employment of these baths are: To diminish dropsical conditions, whether dependent on heart, liver or kidneys; in the absorption of pleural exudates; in the treatment of chronic arthritic troubles, especially arthritis chronica deformans, in which the severe pains are greatly lessened, frequently the exudates are so far removed that the mobility of the joints may be greatly increased. Excellent results have been obtained in sciatica as well as in acute and chronic articular rheumatism.—Grawitz.—*Med. Record.*

Gastro-Intestinal Catarrh.

Dr. Davis, of Louisburg, N. C., reports a case of gastro-intestinal catarrh, the concomitant of mitral regurgitation, in which "Maltine with Creosote" proved decidedly beneficial. As he had anticipated, the Maltine showed its value as a digestive agent, and the Creosote as an intestinal antiseptic, so that the very disagreable symptoms, nausea, diarrhœa, etc., were promptly relieved.

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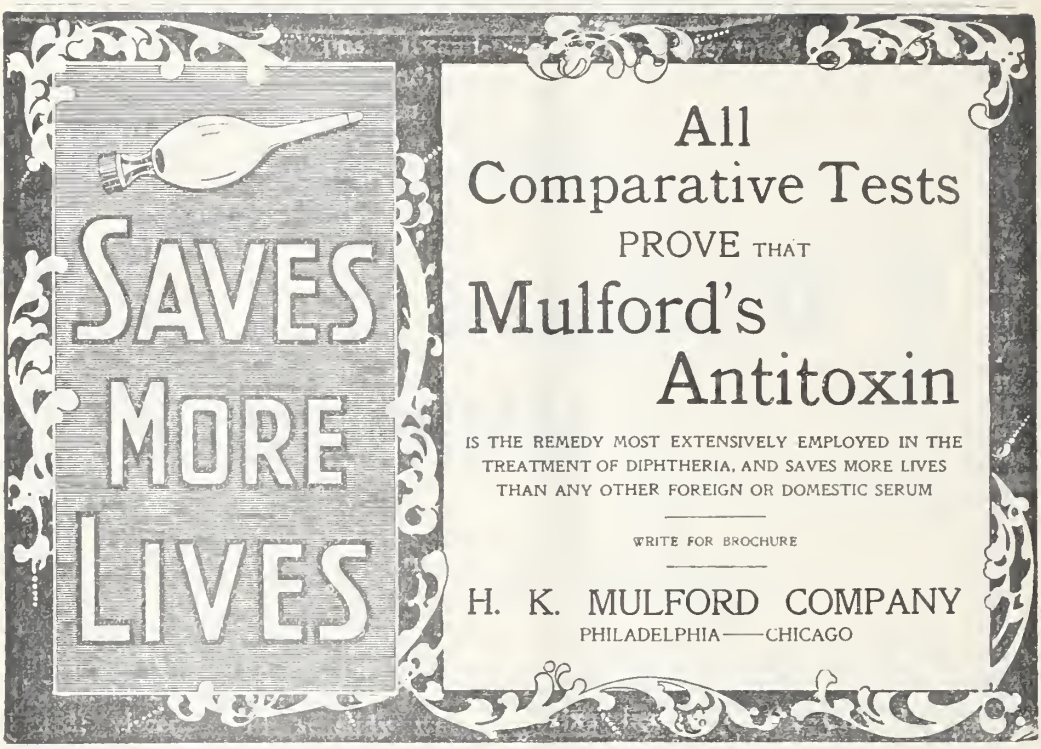

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NATIONAL MEDICAL REVIEW.

VOL. IX. WASHINGTON, D. C., MARCH, 1900. No. 10

Original Article.

EXTENSIVE SUPERFICIAL BURN.

SERVICE OF DR. J. FORD THOMPSON.

REPORTED BY DR. PHIL. C. RILEY,
Resident Physician, Children's Hospital.

B. S. colored, female, five years old, was admitted to the Children's Hospital 11.30 a. m. Feb. 24, 1900 suffering from an extensive superficial burn. One hour previously she had fallen into a tub of boiling water as she was in the act of running backwards. She struck against the edge of the tub and fell into it in a sitting position. When admitted to the hospital it was discovered that a very large area was scalded, the epiderm falling away in large strips. Most of the scald was over the back and buttocks extending from the middle of thigh to the angle of the scapulæ. She was not burned much over the abdomen, only a few blisters about the size of half a dollar being scattered here and there over its lower portion. She was immediately put to bed and the burned area was washed with a warm sterile normal salt solution and dressed with Carron oil previously sterilized. A comfortable bandage was then applied. She was in condition of shock, her pulse being 140 and respirations were 36 and shallow. Temperature at this time was 99° per rectum.

Strych. Sulph. gr. 1-150 with whiskey ½oz. was ordered to be given every 3 hours and she was also ordered milk diet.

February 25. Rested quietly during night; did not complain of any pain; took sufficient amount of nourishment; pulse continued weak and rapid, being 180 at nine o'clock this a. m.; respirations shallow and rapid, being 40; tem; perature 103.5 in rectum; pupils dilated. talks collectedly, no delirium. Examination of chest as follows: Inspection, Percussion and Palpation, Negative. Auscultation shows only a few moist rales at both bases with diminished breath sounds. Stools loose, greenish and containing a good deal of mucus. Voids urine in sufficient quantity. Examination of specimen, negative. Burns were dressed this morning. No inflammation visible; parts looking healthy. Dressings reapplied, using sterilized vaseline.

At one o'clock, p. m., her temperature rose to 106.4°; pulse 180; respiration 52.

February 26. Passed fairly comfortable night, temperature ranging from 103° to 105°; pulse 170 to 185; respirations 49 to 60 per minute. Does not complain of any pain, and takes full amount of nourishment. Dressings changed. Burned

surfaces looked well; no pus. Examination of chest showed same condition. Stools frequent, loose and green, with a great deal of mucus. Temperature range from 103° to 104°. Urine slightly diminished in quantity; contains slight amount of albumin; urea normal; microscopic examinations negative.

February 27. Did not sleep well during night, being restless. Stools involuntary and loose with a great deal of mucus. Refused nourishment; grew gradually weaker through night; temperature ranged from 103° to 106.7°. This morning extremely weak but conscious. She grew gradually weaker, and died at nine forty-five, a. m., temperature at nine o'clock being 106.7°. Necropsy, made six hours after death. Rigor mortis not well marked, body well developed. Abdominal cavity; Peritoneum not inflamed; viscera still sensibly warm; stomach contains a few curds of milk; coats of stomach not inflamed; spleen, kidneys and liver much congested, otherwise normal; several supernumerary spleens were found; pancreas was much congested, its head being firmly adherent to the commencement of the duodenum.

Upon tying off the duodemen at the pylorus and splitting the gut, the glands were found to be inflamed and enlarged. In the first portion of the duodenum there was found a highly inflamed, dusky looking spot of beginning ulceration about the size of a silver quarter.

The mesenteric glands were enlarged but not inflamed. Tharocic Cavity: The lungs showed marked congestion at both bases; there was no oedema apparent.

The heart was found firmly contracted the right auricle and ventricle being filled with an antemortem clot, making a perfect mold of these chambers.

Examination of the Cranial Cavity not made as consent of parents could not be obtained.

Notices and Reviews.

HISTOLOGY AND PATHOLOGY. By Dr. John B. Nichols and Dr. F. P. Vale. Philadelphia. Lea Brothers & Co. Price, cloth, $1.75 net. Flexible red leather, $2.25 net.

This is another volume of Lea's Series of Pocket Text Books. The authors are well known in Washington where Dr. Nichols is Demonstrator of Histology, Medical Department of Columbian University and Dr. Vale is Assistant in Pathology, Medical Department, University of Georgetown. They present in this work all the essential facts relating to the normal histology and the pathological anatomy and histology of man, and they arrange and treat the subjects in a manner convenient and clear to students and practitioners. The authors take the ground that the normal structure of the tissues is a standard by which morbid changes can be recognized and measured. Pathology steps in after histology and regarding each disease as an entity, describes its nature, signs, course, and effects, thus yielding an understanding indispensable as a prerequisite to the practice of medicine. Drs. Nichols and Vale have summarized these two sciences in their interrelations, and have presented a manual which is handsomely illustrated, thoroughly up-to date and serviceable alike to the practitioner and student.

The volumes of this series will hereafter be bound in red cloth, heavy bev-

eled edge boards and also in flexible red leather with round corners and with margins trimmed to facilitate carrying in the pocket. The leather bound books will cost 50 cents more than the cloth bound.

A TEXT-BOOK OF DISEASES OF WOMEN. By Dr. Charles B. Penrose, Philadelphia. W. B. Saunders, 1900. Price, cloth, $3.75 net.

This book was written for the medical student according to the author, but the medical student who has graduated and is practicing medicine will find in its pages the best teachings of modern gynecology, untrammeled by antiquated theories or methods of treatment. Dr. Penrose has adopted the happy plan of recommending but one plan of treatment for each disease, hence when one consults the book for practical guidance he is not confused by a multitude of methods. The author has, as a rule, wisely omitted all facts of anatomy, physiology, and pathology, which may be found in the general text-books upon these subjects, such facts are mentioned in detail only when needed for the elucidation of the subject or when there are certain points in the pathology peculiar to the diseases under consideration. This third edition has been carefully revised and a few additions made. It is interesting to note that Prof. Penrose has found tuberculosis of the tubes in 18 per cent. of the cases that were subjected to the operation of salpingo-oöphorectomy for inflammatory diseases of the tubes. He thinks that tuberculosis is present in from 8 to 18 per cent. of all cases of inflammatory disease of the uterine appendages.

A TEXT-BOOK OF MATERIA MEDICA. By Dr. George F. Butler, Philadelphia. W. B. Saunders, 1899.

Dr. Butler's well known text-book makes its appearance now in a third edition showing marks of careful revision and so complete in text as to contain the latest knowledge touching the topics considered. When a text-book reaches a third edition in three years it is easily understood that the work must have value in order to excite such a demand for it. The present volume is a clear concise and practical book adapted for permanent reference no less than for the requirements of the class-room. Special attention has been given to the pharmaceutical section which is exceptionally lucid and complete. In the descriptive enumeration however, only such drugs are included as experience has proved to be of unquestionable value and are of standard and authoritative acceptance in general practice.

THE PRINCIPLES OF TREATMENT AND THEIR APPLICATION TO THE PRACTICE OF MEDICINE. By Dr. J. Mitchell Bruce. Revised to conform to the U. S. Pharmacopeia by Dr. E. Q. Thornton Philadelphia. Lea Bros. & Co. Cloth, $3.75, net.

Obviously the best as well as the easiest method of mastering a subject is to simplify it by reduction to its governing principles, a fact which Dr. Bruce has applied to the practical part of medicine, namely, treatment. Having accomplished this he subsequently presents concrete illustrations of the application of these principles in the management of disease, giving full therapeutical directions. This volume is, therefore, of great value to the senior student as well as to the practicing physician. Even the most highly educated undergraduates experience great difficulty when called upon to show any intelligent acquaintance with treatment. How many physicians could answer for every ingredient in the formulas which flow so readily from their pencils? The volume before us conveys to the student the power for which all else in medical education is only preparatory. Aiding the convergence of knowledge upon this sole end of treatment, it increases the efficiency of the physician for the same reason. There are few practitioners who could not derive benefit from this work.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. Edited by J. Collins Warren, M. D. and A. Pearce Gould, F. R. C. S. W. B. Saunders. Philadelphia. 1899. Price, $5 net,

This is the first volume of this international work on surgery by American

and British authors and is devoted to the consideration of general and operative surgery. The second volume will be ready in the near future. The editors say they need offer no apology for making an addition to the list of excellent works on surgery already in existence. Modern surgery is still in the transition stage of its development. The art and science of surgery are advancing rapidly and the number of workers is now so great and so widely spread through the whole of the civilized world that there is certainly room for another work of reference which is untrammeled by many of the traditions of the past and at the same time presents with due discrimination the results of modern progress. The editors have produced a reliable text-book of surgery embodying a clear but succinct statement of the present knowledge of surgical pathology, symptomatology, and diagnosis, and such a detailed account of treatment as to form a reliable guide to modern practice. They have carefully omitted antiquated methods without aiming at the merely novel.

A MANUAL OF MODERN SURGERY. By Dr. John B. Roberts. Lea Bros. & Co. Phila. and N. Y. 1899.

Shortly after the first edition of this work appeared, the writer of this notice took occasion to congratulate Dr. Roberts upon the great success he had achieved in producing a book so eminently practical and up-to-date. The learned professor modestly replied that he hoped the profession could be induced to buy his volume. We conclude from the appearance of this second edition that the profession knows a good thing when it sees it and has shown proper appreciation by exhausting the first edition of such a valuable work. Dr. Roberts has succeeded in giving to the professiou in a condensed form the accepted doctrines and approved procedures of modern surgery. Much space has been given to modern pathology and asepsis, without a knowledge of which no surgeon is fully equipped for work. Fractures and dislocations are discussed in a specially practical and comprehensive manner. Many articles have been entirely rewritten and the text throughout has been carefully revised. The author is to be commended for his thoroughly good index which makes the book specially valuable as a work of reference.

Progress of Medicine.

Treatment of Nose-Bleed.

Thomas J. Gallagher, A. M., M. D., Professor of Laryngology and Rhinology, University of Denver Medical College, Denver, Colo., contributes a very practical paper on this subject to the September number of the *Colorado Med. Jour.*, in which he says:

"The immediate treatment of nose-bleed, whether it be due to traumatism, a diathesis, local lesion or is vicarious, is practically the same. In the large majority of instances the bleeding comes from the septum anteriorly, and is due to rupture of the septal artery or one of its ramifications. It is well to keep this in mind, as often direct pressure can be made on the bleeding point. A piece of dry cotton, which exerts direct pressure, will very often stop the hæmorrhage.

"Another simple method is to introduce a pledget of cotton as large as the finger, saturated with 4 per cent. solution of cocaine, applied with nasal forceps to the bleeding point.

"One of the simplest and most effective means of controlling nasal hæmorrhages is the proper use of peroxide of hydrogen. At least one drachm of pure H_2O_2 should be injected into the nose with a syringe or common medicine dropper, after which the nares are to be closed, anteriorly and posteriorly, by the following procedure: Immediately after introducing peroxide the nares are to be closed anteriorly by compressing the alæ of the nose with the index finger and thumb. Posteriorly the nares can be closed fairly well by directing the patient to open the mouth, at the same time holding the head erect. A clot is formed at once, the volume of blood is much in-

creased, and the gas, which is liberated, is confined in the cavities, exerting considerable pressure. This should be confined for five minutes, the patient being instructed not to blow out the clot. If this doesn't succeed with the first trial, it may be tried again. There is some danger of the liberated gas being forced into the Eustachian tubes, and the patient should be directed to release the anterior nares in case a fulness is felt in the ear. Failing in this method, a pledget of cotton may be saturated with H_2O_2, placed in the nostrils, and closing them as mentioned above.

"If the above methods fail we should at once plug the posterior nares and pack the nostril to the anterior nares. This has commonly been done by means of Bellocq's canula, drawing the plug up through the mouth and back of the palate. This operation is sometimes difficult for one not in special work, and indeed it is unnecessary, as a much simpler means can be employed. I have been in the habit of using the following simple method, which has never failed me in arresting nasal hæmorrhage, even after the most extensive surgical procedures in the nose: A piece of cotton as large as the patient's little finger is taken, and a piece of string six inches long is tied to its center. The cotton is then introduced through the anterior nares until it is free in the nasopharynx; gentle traction is then made on the string until the cotton is engaged in the posterior nares, which can be told by resistance or by direct vision. I then blow in an antiseptic powder, such as aristol or nosophen, and pack against the plug sterilized gauze in a long and narrow strip More powder is blown into the meshes of the gauze as we pack to the front. The string should be wrapped around the index finger of the operator, and he should make sufficient traction to hold posterior plug in place, lest the plug may be dislodged and be forced into the nasopharynx, defeating our purposes. When we have packed to the anterior nares a pledget of cotton will be all that is needed Cases in which the hæmorrhage has not been alarming it is well to remove the plug in twenty-four hours. In graver cases it may be left for forty-eight hours without much danger of producing acute inflammation of the middle ear. The packing should be removed with the utmost care, and in nearly every case its removal is not followed by additional hæmorrhage.

"I first thoroughly saturate the gauze with an antiseptic solution, such as boacic acid, following this up with an injection of 2 per cent. solution of cocaine, using it from time to time during the removal of the gauze. I also inject an oily solution, such as liquid vaseline or glymol. When the posterior plug is reached an additional injection of the oil should be made; then the plug can be gently pulled through the nose by the string which has been kept in front and in the inferior meatus, the oily injection having lubricated the parts. At least ten or fifteen minutes should be taken to remove the plug. In case the plug is not easily dislodged, which is very seldom, it may be pushed back into the nasopharynx, first having additional string tied to the string already in place. The plug may be then removed by means of the forceps, or drawn down and coughed out by the patient himself.

"This means of arresting nasal hæmorrhage cannot be used, however, if there is great obstruction in the nostril, in which event a very small soft rubber catheter can be introduced into the nostril, a string having been attached to its end, catching the catheter in the nasopharynx and drawing it out through the mouth. The catheter may be cut loose, a pledget of cotto ntied in the continuity of the string, which should be long enough to project from the mouth to facilitate its removal, and the pledget should be pulled into the posterior nares, the nostril being packed with gauze as well as possible. We may have deflected septum, totally occluding the anterior nares, the blood flowing into the nasopharynx, in which case a pledget of cotton may be tied to a string and passed back of the palate and carefully packed into the postrrior nares with the finger. I have never seen this complication, but it might occur. *Med. Rev. of Rev.*, N. Y., 1899, v 715.

(Continued from February number.)

In gunshot wounds of these different tissues the destructive effects of the new bullet are frightful at close range, say at 100 yards or even up to 300 yards in some cases. At these ranges it is almost impossible to tell, except from the size of the the wound of entrance, whether the ball belongs to the large or small caliber rifle. Within these limits the destructive effects of the small caliber bullets increase as the range becomes shorter, and had the Spaniards held their ground, it is doubtful whether our men could have reached the top of the hill. Had this been so, we should have seen an entirely different picture at the base hospital. The wounds presented there were made in the middle and remote ranges, at which the humane effects of the modern arm are shown to the greatest advantage. We saw but one case at the base hospital that approximated those frightful wounds exhibiting the so-called explosive effects. In estimating the value of antiseptic dressings we must remember that the gunshot injuries were not as a rule as severe as they might have been nor as severe as those wounds mentioned by Dr. Reyburn in the Civil War. In our wounds the opportunity for the introduction of sepsis was not so great, the local resistance was not near so much impaired as it was in the wounds of the Civil War from the larger conoidal bullet made of soft lead.

In reckoning upon our results we must not be too eager to concede everything to antisepsis since the character of the wounds was especially favorable to rapid healing.

GLOSSO-LABIO-LARYNGEAL PARALYSIS. WITH REPORT OF A CASE.

By Francis P. Morgan, M. D.

The case which I wish to present is one of Glosso-labio-laryngeal Paralysis, or, as it is otherwise known, Bulbar Paralysis.

The patient, a white man, 47 years of age, married, entered Dr. Richardson's service in the Dispensary of the Columbian University Hospital on April 3rd. He was of medium height, and good appearance; hair, noticably thin, short, and filled with dandruff. This last, he ascribed to an attack of eczema, from which he had suffered for two years past. Physical examination, aside from the effects of the bulbar trouble, negative. No history of venereal disease or of previous nervous trouble could be obtained. Family history, negative. He stated that he first noticed difficulty in his speech in the early part of last February, and that this condition has become progressively worse.

Not long after, pain appeared in the inner and upper aspect of his left arm, and this has persisted with greater or less intensity, and with occasional intermissions, to the present time. This was accompanied by an increasing weakness of that arm, its strength when first examined, being roughly estimated at about one-third of that of the right.

When he entered the Dispensary, his speech was "thick," like that of one "tongue tied," and his voice had a nasal twang. What he said, could easily be understood, as soon as one became used to it. Examination showed that the posterior part of the tongue especially, and probably the soft palate also, did not enter into the formation of words. He had particular difficulty with the letters S, T, R, L, and N. Examination of the larynx, and pharynx was negative. Diagnosis of Glosso-labio-laryngeal Paralysis was made, which was confirmed by Dr. Richardson.

He was put upon potassium iodide, and kept under observation.

During the next two months, his condition became gradually worse, and on account of involvement of the muscles of the lips, he had an increasing difficulty in pronouncing the letters P, F, O, A, B, M and V. He also became unable to pucker up his lips to whistle. The weakness in his left arm also increased. He had difficulty in swallowing solid food, and this was greater at some times than at others.

In the latter part of June, he went to the country, and was not seen again until September 19th. His condition was then found to be much worse. His speech could with difficulty be understood, even after one became somewhat accustomed to it, so that his wife did almost all talking for him. The tongue was thin and flabby, and evidently atrophied ; its surface was covered with furrows, and there were constant fibrillary contractions of the muscular fasciculi. Its mobility was also diminished, the ability to protrude it being about three fourths of the normal, and to move it from side to side not more than one-half of the normal. The condition of the lips was somewhat worse, although the atrophy was not so marked as one would expect. No atrophy of the muscles of expression could be detected. The naso labial folds appeared somewhat deepened, and the lower part of the face did not enter into the act of laughing to the usual extent. He was emotional, and cried frequently, which, however, was not unnatural for one in his position.

As regards the larynx and pharynx, his voice had become weaker, and he had frequent choking spells, from food entering the larynx ; some of these were very severe. He also had occasional paroxysms of threatened suffocation upon awakening, and he was obliged to sleep propped up by pillows. Reflex action in the affected muscles of the throat was diminished. Sensation appeared unaffected. The muscles were not tested for the reaction of degeneration. Salivation was excessive, and the saliva dripped from the corners of the mouth, when he laughed. The pupils were normal, and reacted to light. There was no paralysis of ocular muscles.

In July, the right arm became affected in the same way that the left had been, and on September 19th, the weakness of both arms had become so great that he could not dress himself. A constant twitching contraction of the individual muscles on the anterior inner aspect of the upper arm, apparently analogous to that in the tongue, could be seen through his shirt. About September 1st, he noticed an excessively tired feeling in the upper, anterior, and inner aspect of the left thigh, which, after unusual exercise, amounted to an ache ; that limb also "gave out" before the other. The weakness increased rapidly, so that at the time of this examination, he was unable to walk to the Dispensary.

Treatment.—He was directed to pass as much of his time as possible in a warm sunny room. Those about him were instructed to divert his mind from his malady as much as they could and to spare him all worry and anxiety—in short, every thing possible was done to make his surroundings bright and cheerful. He was permitted to walk out on warm, clear days, the amount of exercise always stopping short of fatigue. The food ordered for him was nourishing, and easily digested. Great care was taken to prevent the entrance of

particles into the larynx, and so far, it has not been necessary to use the stomach tube in feeding him.

When first seen, he was put upon twenty grain doses of Potassium Iodide, thrice daily. He discontinued treatment during his absence from the city, but resumed it again upon his return, when the dose of the Iodide was rapidly increased until he is now taking sixty grains, three times daily. A simple tonic, containing Iron and Quinine Citrate, and Compound Tincture of Gentian, was also administered.

Sulphonal proved effectual in relieving the insomnia from which he occasionally suffered. Early in the case, he was given for this trouble, two one-eighth grain tablets of morphine sulphate, with directions to take one at bed time and the other in one hour if he was not asleep. The first one produced such an alarming attack of dyspnoea as to preclude the possibility of his taking the second. This effect of opium in Bulbar Paralysis is worthy of note. It is, in all probability, caused by the depressing effect of the drug upon the respiratory center in the medulla oblongata. Although this physiological effect of opium is well known, serious, and even fatal results have followed its use in cases in which the respiration was embarrassed—e. g., in Pneumonia, Pneumothorax, and similar affections—depression of the center being added to the already existing respiratory embarrassment. In the case under consideration, however, no embarassment of the respiration existed before the drug was administered. Whether the proximity of the lesion of the disease to the respiratory center has any effect in intensifying the depressing effect of opium cannot at present be stated.

A spray of Dobell's Solution for use in the nose and throat, was ordered as a cleansing agent. For the nervous and hysterical attacks, a mixture containing Sodium Bromide and Compound Spirit of Ether was prescribed.

Galvanic electricity was applied every other day, and later, at less frequent intervals, the positive electrode being applied at the nape of the neck, and the negative over the sacrum.

As chronic bulbar paralysis is not a common disease, it may be well to recall some of its more important features. It was first recognized as a distinct affection by Duchenne, in 1861, who described it, and reported thirteen cases. In 1861, Baerwinkel, and in 1864, Schultz and Wachsmuth, stated their belief that the seat of the lesion is in the medulla oblongata. This theory was confirmed by autopsies made by Charcot and Joffroy, in France, in 1869, and by E. Leyden, in Germany, in 1870.

Since then, microscopical examination has shown that the primary lesion in the medulla consists of a progressive degeneration of the nuclei of origin of the hypoglossal, glosso-pharyngeal, pneumogastric, and spinal-accessory nerves, and occasionally of the facial, the process usually commencing in the origin of the hypoglossal nerve. As these parts represent the continuation upward of the nuclei of the anterior cornea of the cord, it is not unusual to find also, a corresponding degeneration of these nuclei. There may also be found a descending degeneration of the anterior pyramids of the medulla. The muscles of the tongue, lips, and throat are more or less atrophied.

The disease is therefore a form of progressive muscular atrophy, causing paralysis of the muscles of the lips,

tongue, palate, and throat, and is produced by a degeneration of the motor nuclei in the medulla which supply these muscles. It may accompany a corresponding degeneration of the motor nuclei of the cord, causing progressive muscular atrophy, or may precede, or follow the spinal lesion; or, it may affect the bulbar nuclei alone, in which case a pure glosso-labio-laryngeal paralysis results. In the case above reported, the spinal lesion followed that in the medulla.

The cause of the disease is obscure. It has been ascribed to over-use of the muscles affected, as by blowing wind instruments, excessive talking, etc.; to syphilis, lead poisoning, tumors of the medulla, or vicinity, and to excessive exposure to the weather; but in the great majority of cases, no cause can be ascertained. It is said to occur more often in men than in women, although Dana states that this is contrary to his experience. It is a disease of adult life, most cases appearing after forty years of age.

The prognosis in the case reported, as in all cases of the disease, is unfavorable. The patient had had remissions, sometimes lasting several weeks, and also intervals of apparent improvement. These have given rise to some hope that the treatment might be successful; but taken altogether, the course of the disease has been progressively downward. This is in accord with the literature upon the subject of glosso-labio-laryngeal paralysis, according to which, it is a question whether any case has ever recovered. Death is usually caused by broncho-pneumonia, interference with swallowing, or respiration, or inanition.

The diagnosis usually presents little difficulty. The slow onset, progressive course, evident motor character, absence of disturbance of sensation of special sense, or involvement of the ocular muscles, and its bilateral character, serve to distinguish the disease from others with which it might be confounded. The most important of these are, facial paralysis, bulbar apoplexy, and tumors and cortical lesions producing "pseudo-bulbar paralysis."

In facial paralysis, speech is affected but little, and in a different manner from that in bulbar paralysis; the onset is acute, or subacute; it is unilateral; and the appearance of the face is characteristic. Bulbar apoplexy is sudden in onset. Differential diagnosis from "pseudo-bulbar paralysis" is somewhat more difficult, but the lesion in this condition usually involves other, as well as motor functions—sensation, the special senses, or the ocular muscles.

DISCUSSION.

Dr. LOCHBOEHLER inquired whether atropine was combined with the morphine which was administered in Dr. Morgan's case. This was an important point, as the depressing effect of opium in diseases in which the respiration was embarrassed is well known, and has produced alarming results unless combined with a sufficient quantity of atropine sulphate to counteract these depressing effects.

Dr. BUTLER said that little could be added to the paper just read. Fortunately, these cases were very rare; he had seen but one, several years ago. The disease began with difficulty in speech, in the usual way. The patient succumbed, while in the early stages of the disease, from an apoplectic attack. The prognosis is much more grave in cases where the superior laryngeal nerve is involved early in the history of the case than in those where the recurrent laryngeal only is affected. This is because particles of food and other foreign substances, entering the larynx, are not

coughed out on account of loss of sensation, and suffocation or broncho-pneumonia may result.

Dr. Abbie C. Tyler inquired whether all of the drug is absorbed when potassium iodide is given in as large doses as sixty grains, as in Dr. Morgan's case.

Dr. Morgan, in closing the discussion, said that atropine sulphate had been combined with the morphine in the proportion of one two hundredth grain to each one eighth grain of the latter. The drug had been given early in the case, before any signs of respiratory embarrassment had appeared. He thought it likely that the greater part of large doses of potassium iodide was absorbed.

This is shown by the fact that in cerebral syphilis and other conditions, large doses of the drug often produce a beneficial effect, when small ones have failed. Also a great part of the drug taken has been recovered from the urine. On the other hand, large, and enormous doses sometimes seem to produce no more evidence of iodism, than small ones. Hence it is probable that the amount absorbed varies in each individual case.

Meeting of November 8th., 1899.

Dr. Sowers, Vice-President, in the Chair.

The committee appointed to take action upon the death of Dr. William R. Maddox, submitted the following report:

Your committee appointed at the last meeting have to report that it has pleased the mysterious Ruler of the Universe to call our fellow member, Dr. William R. Maddox, to his long home beyond the vale of tears.

Dr. Maddox, born in Pennsylvania, was graduated from the Jefferson Medical College in 1877 at the very early age of seventeen years, and entered the practice of Medicine. For a number of years he was physician to an Indian Agency in Idaho, and about 1890 resumed the practice of his profession in this city.

Being of a very retiring nature, he made few acquaintances other than those met in his actual daily duties. Among these he was held in very high esteem. By his professional associates, he was recognized as one of good attainments, careful, conscientious, and governed by the instincts of a high and noble character, following the precepts of his, the grandest profession.

His death is felt as a genuine loss to this Society.

Edwin L. Morgan.
J. Wesley Bovee.
James Kerr.

Dr. S. S. Adams moved that the report be recorded in the minutes, and that the corresponding secretary be instructed to send a copy to Dr. Maddox's family. Carried.

Dr. Behrend presented the following motion: "Resolved that the committee on legislation be empowered to draft proper laws to make householders responsible for the report of contagious diseases.

Dr. S. S. Adams called the attention of the Society to the death of Dr. J. J. Carroll, and moved that a committee be appointed to take suitable action, and report at the next meeting. Carried.

The Chair appointed Drs. S. S. Adams, E. L. Morgan, and Pool.

"*Rubber operating gloves, gauntlets and obstectric gloves.*"—Dr. Bovée said the great obstacle to absolute aseptic surgical technique has for some time been recognized in the impossibility of perfect sterilization of the hands of the operator and his assistants and of the exposed periphery of the patient. While we have as yet devised no successful

remedy for the latter, the surgeon and his assistants can absolutely prevent any contamination of their hands during operations by wearing sterilized rubber gloves. These gloves are exceedingly thin, fit the hands snugly at the ends of the thumbs and fingers and are loose at all other points, thus permitting easy manipulation of instruments and tissues necessary to rapid, good, and satisfactory surgery, and at the same time do not hamper the ordinary deftness of the hand by the elastic constriction of the rubber about the wrist at its upper part, as some others do He found that the gloves he formerly used had this fault, added to unnecessary length, and looseness of the fingers, which permitted them to double over the fingers tips and render manipulation bunglesome. If a surgeon is to use rubber gloves often and regularly, he had best have them made to order, for which the manufacturer makes no extra charge. The wearing of thin rubber gauntlets covering the forearms, which are apt to come in contact with the field of operation, directly or indirectly, is also very advantageous.

The obstetric gloves are slightly thicker than the operating gloves and extend to the elbows.

Whitridge Williams, Menge, and others have demonstrated that practically no pathogenic bacteria exist in the birth canal except at the vulva. It is also thought that puerperal sepsis is caused by the introduction of these germs from the vulva or hands in vaginal explorations. With moderate care in cleaning the vulva, and separating the margins for vaginal examinations, the danger of infection is markedly lessened. Covering the examining hand with a sterile rubber glove, and using no infected lubricant, such as vaseline, the introduction of sepsis must of necessity be extremely slight.

These rubber goods may be sterilized by boiling or by immersion in antiseptic solutions. Dr. Bovée relies on cleaning the gloves in the normal salt solution and then submerging them in a one per cent solution of trikresol for 10 to 20 minutes. Dr. Walter Reed, of the Army, has found that this solution will kill all pus organisms in two minutes, and Dr. J. J. Carroll was unable to grow cultures on pieces of the same material inoculated with the various pus organisms, and subjected a few minutes to submersion in ordinary antiseptic solutions. However, after using them in bad septic cases, he has not felt safe to wear them in subsequent operation without steaming.

A MODIFIED MULES' OPERATION AS A SUBSTITUTE FOR SIMPLE ENUCLEATION OF THE EYE.

By W. K. Butler, M. D.

In presenting this subject before the Society it is not with a view to discuss the various indications for removal of the eye, but simply to call attention to an operation which I think offers many advantages over any which have yet been presented in connection with this important subject of ophthalmic surgery.

The fact that so many operations have been suggested to take the place of simple enucleation shows the unsatisfactory feeling with regard to this mutilating procedure. It is hardly necessary to remind you of the very many objections to the usual operation of enucleation, in which we have a very small stump, with a staring immovable glass

eye, smaller in appearance and often covered with mucus, and also the greater objection of the risk to the loss of develment of the orbit in children who have been so unfortunate as to require removal of the eye. So strong has the objection to this operation become that some operators claim that simple enucleation is no longer justifiable. Personally I have not yet reached this advanced position but as experience has increased, I have thus far found the advantages of this operation well worthy of more extended trial. Among the various substitutes for enucleation, I would briefly call your attention to the following, which have been tried more or less successfully, 1. Abscission of the cornea for staphyloma. While suitable for some selected cases, it is not as universally applicable and is much more liable to be followed by sympathetic trouble. 2. Optico-ciliary neurectomy or neurotomy. This has the disadvantage of being worthy of trial in only a very limited number of cases, besides being attended by danger of, (a) free hemorrhage into the orbit and protrusion of the ball; (b) ulceration of the cornea; (c) return of pain; (d) development of papillitis in the other eye. 3. Evisceration without the insertion of anything into the scleral cup—known as Græfis operation. The disadvantages of this are said to be excessive reaction from the operation and danger of sloughing with subsequent pain in the stump. 4. Evisceration with the insertion of a substitute for the vitreous.

This may be a glass sphere as devised by Mr. Mules of England, or a sphere made of silver or celluloid.

Mules' operation consists in eviscerating the contents of the globe and retaining the scleral cup in which after thorough cleansing and checking all hemorrhage, a glass sphere is placed. This is held in position by suturing the sclera over it, and bringing the conjunctiva together over the scleral wound.

There are many earnest advocates of this operation the advantages of which when successful are at once apparent.

Mr. Mules in epitomizing these advantages as compared with simple enucleation says, in the latter we have—

1. Complete removal of the globe and its contents. 2. No stump, therefore sunken eye. 3. Disturbance of all muscular relations and arrest of movements. 4. A fixed staring eye attracting attention. 5. Patient shuns society. 6. Arrested development of orbit in case of children.

In his operation there is—

1. Retention of the framework of the eye. 2. A firm round globe forming perfect support for artificial eye. 3. Perfect harmony of muscular movements retained. 4. Fitted with selected eye defies detection. 5. No question as to personal appearance. 6. No interference with growth of orbit.

To these Dr. Morton of New York, an earnest advocate of the modified operation, adds, that by reason of the artificial eye being held in closer relation to the inner canthus, a better drainage for the tears is permitted, and also the accumulation of tears and mucus on eyes worn after simple enucleation giving an uncleanly appearance to the eye is largely prevented by this operation.

The report of the Committee of the Ophthal. Society of the United Kingdom of Great Britain investigating the relative value of simple excision and the operations which have been devised for for it, says of Mules' operation that the suggested disadvantages of it are escape

of the globe, breakage of the globe, reaction after the operation, prolonged stay in the hospital, sloughing of the sclerotic and subsequent pain in the stump. None of these have been found to be very serious.

The modification of this operation which I present this evening consists in the entire enucleation of the globe and the insertion of a glass sphere, such as is here presented, in the capsule of Tenon. The technique of the operation is very important if good results are to be obtained. The four recti muscles being held in their natural position as far as possible by absorbable ligatures, the sup. and inf. being brought together over the glass globe and the int. and ext. treated the same way. The conj. is then brought together after the muscles are safely tied. The reaction and pain following this operation is very much less than after Mules' original method, being practically very little if any greater than after simple excision. The objection may be made that the ball may slough out, and this result does follow in a certain proportion of cases, but even when it does the patient has not lost anything by the attempt to give him a better stump. No case of breaking of the glass globe has yet to my knowledge been reported.

Other substances besides glass have been tried. Thus Lang of Morefields used celluloid in 12 cases but in none of them is it definitely known that it was retained for several years; silver globes have also been tried, but not nearly as extensively as glass. Two cases were reported in which the silver caused an argyrosis of the stump; one of them after 6 months use. The insertion of sponge has also been tried, concerning which it is the consensus of opinion of the section of Ophthalmology of the College of Physicians of Philadelphia, says that it has been tried and found wanting. Dr. Risley says that the stump obtained after this method is not better than is often obtained after careful excision, the final result being delayed a number of months. The advantages which are claimed for the original Mules operation are equally applicable to this modified procedure with the additional advantages of less risk of sympathetic trouble, shorter convalescence and very much less reaction and pain following the operation.

The boy which I present this evening had Mules' operation performed September 30, 1898. While celebrating the Fourth of July his face and eyes were filled with powder, which was carefully picked out as far as possible by Dr. McKimmie. There was very severe inflammation in O. S. which gradually subsided, the lens in the meanwhile becoming cataractous. The eye remained quiet for a short while when it suddenly became very much inflamed with pain in O. D. Vision was nil and it was decided that a grain of powder must have penetrated the globe and enucleation was advised. Mules' operation was done. A grain of powder was found in posterior part of the vitreous. The reaction following this operation was very severe but was controlled by cold applications. The severity of the reaction was so great that in my succeeding 3 cases I have done the modified Mules' operation, the young man here presented showing the results.

This patient also lost his eye from a premature explosion last Fourth of July. While loading a pistol with the powder from a giant cracker it exploded, totally wrecking the eye from the entrance of

powder. After treating him expectantly for 10 days it became necessary to remove the globe and a modified operation was performed.

While it is not to be expected that every case will prove entirely satisfactory, yet with improved technique of the operation I believe it will come more and more into general use as its advantages become recognized.

DISCUSSION.

Dr. BELT said that he had reported to this Society in 1896, his results in six cases of sponge grafting after removal of the globe. He had since used the same method in a number of other cases with favorable results.

The principal objection to Mules' operation was, as already stated, the great reaction which is liable to follow it. There is often much swelling, œdema, and pain for several days. Another objection to it, is the danger of sympathetic inflammation of the other eye. When in London this summer he had seen the modification of Mules' operation as performed by Dr. Butler, in which a glass globe was inserted in the capsule of Tenon and the results seemed to be satisfactory. In his paper in 1896, he suggested uniting the recti muscles in front of the sponge, and had practiced it in the latter cases.

The advantage of this was that it insured better motion of the globe, strengthened the conjunctiva, thus preventing in large measure, the tearing out of the stitches. One objection to the method of sponge-grafting is that in time, the new-formed tissue contracts somewhat, causing slight sinking in of the globe.

Dr. BURNETT said that the subject had hardly been considered with entire justice to the old methods, for to say that an individual with a glass eye is obliged to shun society, etc., is not true. It should be remembered that in some cases, no operation, Mules' or any other, will give satisfactory results. Enucleation performed by our present methods, if properly done, often gives just as good results, just as perfect motion, as in the cases presented by Dr. Butler. Hence, while he would be the last to discourage a fair trial of the new operation, he thought that we should not be in haste to claim too much for it, or to speak badly of the old methods. After all, a globe of glass, ivory, or any like substance, is a foreign body in the orbit, and its use is to be avoided as bad surgery, whenever it is possible. Dr. Belt's sponge-grafting method was an effort in the right direction, and that it was not successful was not his fault All other methods in which a foreign body is introduced into the orbital cavity are essentially bad surgery, and sooner or later the tissues are almost sure to try to get rid of it. He did not remember that Dr. Butler had mentioned the name of Dr. Webster Fox, yet he was the first in this country to perform the Modified Mules' operation, the implantation of a glass ball in the tissues of the orbit. He used the method in cases where the orbit was contracted, and there was much loss of substance, and little motion of the stump possible. Thus, he had secured a greater degree of motion than had before been obtained.

A recent method in a different direction had been proposed, and had not been mentioned, and which appeared promising. No one could deny that Mules' operation involved a certain amount of risk on the part of the patient: it has failed even when performed under the most favorable circumstances. In one case, a patient lost his one remaining eye through sympathetic inflammation, and this may occur again. He, himself had never performed Mules' operation, as he considered the risk to the patient too great. The improvement proposed by Prof. Sneden of Utrecht, consists of the taking of a cast of the orbit so as to make the artificial eye fit accurately into the sinuosities of the stump; in this way, whatever motion the stump may have, will be imparted to the globe. By the use of this method, the best results have been obtained with the least amount of danger.

Dr. JAMES STUART said that he had seen Mules' modified operation performed many times. There had been practically no reaction, and no symptoms referable to pressure upon the stump, for there is plenty of room. If the sclerotic were diseased, it should of course, be removed and Mules' operation could not be done. The objection to the method mentioned by Dr. Burnett, that of fitting an artificial eye to an ordinary stump, by means of a cast, was, that not much motion could thus be obtained. In Mules' operation, and in the modified operation, the degree of motion was considerable, inasmuch as the ocular muscles were left in situ in Mules', and brought together in the modified: whereas, if we rely upon the motion imparted by the old stump only, little motion results. Another advantage of the modified operation is that, if the stitches should cut through, and the wound gape apart, it can be bathed with an antiseptic solution, new stitches inserted, and the parts be brought together with happy results.

Dr. BUTLER, in closing the discussion, said that Dr. Burnett had misunderstood him. He did not recommend Mules' operation, but Mules' operation modified as he had described. It should be remembered that it was still under trial as far as his own experience was concerned and its value had not yet been entirely settled. He had found the method of great utility in the cases in which he had used it. True an inflammatory action did light up afterward in some cases and in a few instances, sloughing had occurred, but this left the case no worse than a simple enucleation. Even if the globe did come out in a few cases, 10 or 12 years or less after the operation, the patient in the meantime had the use of a satisfactory eye.

As to the method mentioned by Dr. Burnett, he had seen references to it. He remembered the report of the case of a poor woman out West, who, having broken her glass eye, put a piece of wax upon the back of it, and moulded this to the stump with satisfactory results. The expense of having a cast taken, and the cost of the extra work required was a factor to be considered before adopting the method proposed. With regard to Dr. Burnett's objection to the insertion of a foreign body into the orbit, the same thing was being done by the general surgeon in other parts of the body, as in metallic sutures, which are allowed to remain and cause no trouble.

A CASE OF KATATONIA.

By A. BARNES HOOE, M. D.

I was called at 11 o'clock p. m., October 11th, 1898, to see F. M. White, male, age 16, school boy. On entering the room patient was lying on the bed with clothes on, rolling and tossing and apparently totally unconscious of his surroundings. Being in a small dark room it was rather difficult to make a thorough examination. His temperature by rectum was 99.2; pulse 96 and respiration 20. His pupils were widely and equally dilated. He would not say a word so that it was imposible to get any history from him. His father, on being questioned, as to the history of the case, informed me that had he known what was the matter with his son he would not have sent for me. I ordered a cathartic of calomel grs. II, rhubarb grs. XV, and potassium bromide grs. XXX, and left, telling them I would call next morning.

On arriving at the house next morning, his father met me with a smile, saying that his son had been greatly benefitted by the medicine, and that he had slept most of the night and was not so restless then.

The father gave me the following family history: Splendid, with the exception of one maternal uncle who had a

sunstroke, after which his mental condition was impaired and he was in an insane asylum four months and was cured.

His son F. M., had the usual diseases of childhood, measles, scarlatina, etc., and in the fall of 1896 had had a severe attack of remittent fever during which he was several times delirious, but that since his recovery from that attack had been in splendid physical and mental condition attending school regularly and being a very hard student.

The boy did the marketing for his father who ran a cafe, and on morning of October 11th as usual, his father started him to market, but in a few minutes he returned, telling him—and as his father expressed it, like he was making a speech—that every one on the street was laughing at him, and he refused to go out again. He was told to go to his room, which he readily did and and soon after that he was seen with his books apparently studying. He did not go to school as usual that day, and no more was seen of him until he was found at night in the condition already described.

I found the patient this morning in a condition of semi-coma, but he could be aroused, the pulse 80, temperature (by rectum) 99, respiration 18, pupils equally and widely dilated, heart and lungs normal, perspiring very freely, scrotum very much relaxed, testicles small, penis large with congenital phimosis and apparently sensitive to touch; the right leg and thigh being flexed and very rigid, being almost impossible to extend. There seemed to be no effort on his part to resist when I tried to extend the limb.

He would not say a word and would only move a little on being pricked with pin. His teeth were so tightly clinched that it was impossible to get his mouth open. He did not seem to be in any pain. He was moved to Garfield Hospital that afternoon. Put in a dark room the occipital region was shaved and a cantharides plaster 3 by 4 inches applied, and he was given a strong cathartic. He only slept at intervals during the night.

October 13th. Condition about the same, except having clonic spasms of the limbs. Carthartics not having acted he was given enema with fair result. Urine had to be taken by catheter, and only 18 ounces being passed in 24 hours. Infus. of digitalis was ordered.

October 14th. Refused all nourishment and medicine, and jaws being so clinched, they were given through a tube passed through nose.

October 15th. Very restless, body at times so rigid that he could not be bent. In afternoon was in semi-coma, body still rigid, groaning and sighing. Slept most of the night.

Is now getting hyoscine hydrobromate 1-200 gr., infus. digitalis and whiskey t. i. d. On being asked questions answers in a staccato manner.

October 17th. Because of the phimosis and also to stop onanism he was circumcised under chloroform anæsthesia. Just before being circumcised he was given a simple enema, which was retained all through the anæsthesia and was evidently absorbed.

October 18th. It still being impossible to get him to take nourishment and not wishing to excite him by passing a tube through his nose, it was decided to resort to nutrient enema which had to be continued until the 20th, during which time he never spoke but once and then to swear at his nurse, when he also struck at her, which was the only evidence of violence ever shown by him.

Spasms of sometimes tonic and sometimes clonic form appearing in some portion of body or limbs every day.

October 27th. In a cataleptoid state the whole body being in a state of tonic spasm and remaining so about twenty hours.

October 29th. Oedema of face followed by a dermatitis, but no rise of temperature, which lasted nearly a week.

November 1st. General condition very much better. Sat up in bed an hour. Seems to understand when spoken to but will not talk nor swallow anything. Slight pressure in throat or mouth appears to cause nausea.

Nov. 12th. Took an ounce of milk, by mouth, which was first thing taken by mouth since October 14th.

November 15. Will answer questions but in a very staccato manner.

November 20th. Very much brighter but very weak; talks some and takes nourishment and medicine readily.

November 30th. Has a severe conjunctivis which developed during the night.

December 5th. Complains of headache, never before having complained o anything.

December 20th. Rapidly gaining mentally and physically.

January 7th, 1899. Left hospital cured.

I kept him under observation until about the middle of May, when he left the city to visit relatives in New York State. Both his mental and physical condition up to that time seemed to be first rate. About the middle of September his brother called to see me and said that he was acting rather strangely and wanted me to see him, but being myself sick I did not call until September 27, when I found him suffering from acute mania. On the following day, September 20th, he was sent to the Government Hospital for the Insane. Dr. Latimer, one of the physicians there, told me about three weeks ago that they thought he would recover in the course of a few months.

So far as I have been able to learn cases of katatonia are rare and of the cases I have been able to find reported 92½ per cent. have been men.

Dr. William Hammond reports having seen five cases, and mentions particularly the rapid pulse rate as a peculiarity of the disease. In this case the pulse was never higher than 104. The dramatization usually seen in these cases was noticeable in this case, but was not so marked as in Dr. Hammond's cases. Dr. Kiernan has seen 46 cases four of which he reported in detail in the *Alienist and Neurologist* of October, 1882. Kahlbaum has seen 26 cases. Dr. Irving Rosse has seen 3 cases, two of which he reported in the *Maryland Medical Journal* in 1896; Dr. Rosse says that in a visit to the insane institutions of Europe he did not see a case at all. The treatment in my case was purely symptomatic.

Dr. Hammond recommends bromide of soda in large doses, but I did not try it all all. I gave hyoscine hydrobromate for its hypnotic effect, and oxide of zinc and piperin to allay spasm and increase the appetite; strychnine and whiskey as stimulants, and infus. digitalis as a diuretic.

His condition was most likely caused from excessive brain work and masturbation.

DISCUSSION.

Dr. KOBER said that he had seen one case. The first symptoms appeared at the age ot puberty, which is the age at which they generally appear. The patient a son of an army officer was then a resident of Washington Barracks. His symptoms and actions were characteristic of Catatonia: there were the theatrical attitudes and gestures, and besides delirium grandeuse, he imagined himself a man destined to become a great general. His symptoms were otherwise harmless. At the age of 23, when a cowboy in California, he was seized with acute mania, and was brought to the Post Hospital at Fort Bidwell for treatment.

During this attack, he lost weight very rapidly and frequently entered the cataleptic state, and would remain in one position sometimes for hours, his muscles being perfectly rigid. Dr. Kober believed this phenomenon to be due to some hallucination which was dominating his actions, and after a careful study of the positions, thought it likely that the patient imagined himself dead, and laid out for burial. He slapped him, therefore, when in one of these attacks, sharply upon the chest and said, "Wake up, Harry, you are not dead!" The expression that came over the man's face was wonderful for as he opened his eyes there was evidence of returning intelligence. He recovered, and remained well for several years, when the symptoms returned, and he was brought to this city to Dr. Kober for treatment. When he saw the patient he was shocked, and thought that degenerative changes must have set in, on account of the clinical picture of complete imbecility. Dr. Adams was called in consultation, and both agreed that the only thing to do was to send him to the asylum. There, every physician gave an unfavorable prognosis, saying that there was evidently organic degeneration of the brain, and there was no possibility of his recovery. To the great surprise of all, he recovered within 6 months, and was afterwards employed as clerk in a R. R. ticket office in Portland, Me. He had, however, another relapse, and is now in a private asylum, harmless.

Dr. HOOE, in closing the discussion, said that he had reported this case because it was the first that he had seen and he never expected to see another. The dramatic tendency in the case was not as marked as the catalepsy. Instead of talking much, and assuming theatrical attitudes and gestures, the tendency toward mutism was noticeable. The patient had spoken but once between Oct. 12th, and Nov. 12th. That he was sustained for 5 weeks upon nutrient enemata was also interesting. When in the cataleptic state, the patient's extremities were perfectly rigid, it was not possible to bend them, and he believed that had one persisted in using force, the bone would have given way before the limb could be bent.

MEETING OF NOVEMBER 15th, 1899.

Dr. ACKER, Vice-President in the Chair.

The report of the committee upon the death of Dr. James J. Carroll was read and is here appended:

"Whereas this Society has learned with sincere regret of the death of Dr. James J. Carroll,

Resolved: That this society extends to the family of Dr. Carroll its sympathy and condolence in their great loss.

Resolved: That a copy of these resolutions be furnished his family and that a copy be spread upon the minutes of Society.

S. S. ADAMS,
B. G. POOL,
EDWIN L. MORGAN.
Committee.

Specimens of Laryngeal Growths.

1. Dr. T. C. Smith, in presenting his specimen, said that it had been removed from a woman, from 55 to 60 years of

age, who, for 10 or 12 years before her death had suffered from an obstruction in the larynx. Dr. Hyatt had discovered the growth in the larynx 10 or 12 years ago, and had treated her locally for some time. Last summer he was asked to see her in articulo mortis, apparently she could not live. She revived however, and was able to get about again, but still with an obstruction of the larynx. While there was entire absence of pain, the case looked like one of tubercular ulceration of the larynx. Dr. Butler was called in, and believed that her condition was not such as to justify an operation for the removal of the growth.

After this he was called to sign the death certificate. Autopsy disclosed a large growth, which appeared small when viewed from above, but very large when seen from below. There was much destruction of the mucous membrane of the larynx, and of the right vocal cord. She had before her death been under the care of a homeopathic physician, who, by his powerful remedies, had "removed the tumor." Had this patient fallen in to the hands of a specialist a year ago, the growth would undoubtedly have been removed by laryngotomy. It would probably have recurred after a few years, but she would have enjoyed comparative comfort in the meantime.

Upon request of Dr. Smith, the specimen was referred to the Microscopical Committee for investigation and report.

DISCUSSION.

Dr. BUTLER said that he had seen the case in consultation, and made a diagnosis of papilloma of the larynx. From the history of the case, and appearance of the growth, he believed it to be benign, and that it will be intesesting to hear the report of the Microscopical Committee upon this point. The patient, when seen by him, was very feeble, and he therefore thought no attempt to remove the growth should be made, and as it did not interfere with her general health, he advised expectant treatment. The autopsy shows a tumor of greater size than one would expect from laryngoscopic examination, and any attempt at its removal by the endolaryngeal method would have been futile.

At a meeting of November 29th, the Microscopical Committee reported, that Dr. James Carroll of the Army Medical Museum had pronounced the tumor a "papilliform adeno-carcinoma" and therefore malignant.

2. Dr. Lamb presented three specimens of *laryngeal tumors*. One was a large epithelioma involving the base of the tongue, posterior half-arches of the palate, and much of the larynx. The man died at 63 years, after a history of about one year's illness. Was much emaciated. Had the usual prominent symptoms: dyspnoea, dysphagia and aphonia. Profuse expectoration of mucopus, with shreds, and later profuse hemorrhages. The second case was also an epithelioma of the right side of the inner larynx: from a woman age 74 years, who weighed 210 pounds. Had had aphonia for 4 years: dyspnoea and dysphagia. Laryngotomy afforded temporary relief. In each of these cases the post mortem examination was limited to the laryngeal portion. The third case was from a man age 49, apparently a fibroma, size of a pea but oval in shape; attached to left vocal cord; no history obtainable. Died suddenly from obscure disease which the post mortem failed to clear up. The first two cases were published.

Dr. Motter read a paper entitled: "Tuberculosis or Scrofula? A query

as to the investigation undertaken by the Committee on Public Health "

(Not received for publication.)

Before reading his paper, Dr. Motter said that certain changes made by the Committee on Public Health had already accomplished a part of what it was the purpose of his paper to bring about. From certain questions which had been asked him, he feared that some had misunderstood his purpose in presenting the paper. It was feared that he would criticise the investigation which had been undertaken. He wished to say that such was not the case, as would be evident to all, after hearing the paper.

DISCUSSION.

Dr. S. S. ADAMS said that Dr. Motter's paper brought up several interesting questions, the principal one being as to the identity of scrofula, and tuberculosis. He did not feel competent to discuss the question from a laboratory standpoint, so would leave that for those who were engaged in that line of work. The points of identity between the two affections are so striking that, clinically, it is often difficult to determine the line of demarkation between them. The picture of scrofula drawn by Dr. Motter is familiar to all who have had experience in the dispensaries and especially in those frequented by negroes. That we do see many cases presenting that picture no one can question, nor can any one doubt the vulnerability of the tissues, when crucial tests are applied, as is illustrated by the readiness with which the tubercular bacilli obtain a foothold in children suffering from measles, and the high mortality in such cases from miliary tuberculosis. Did the bacilli gain entrance to the body from exposure to tuberculosis during the attack of measles, or was there a latent predisposition to the disease already present, which was lighted up into an active process by the measles?

When he began to practice, joint and other affections which we now know to be tubercular, were classed as "Scrofula." We spoke of a "scrofulous knee," etc, but now the term is seldom heard. His own opinion was, that from a clinical standpoint, scrofula and tuberculosis are identical affections. The bacilli lie dormant in the tissues, needing only suitable conditions and, possibly, mixed infections to start their growth. When this occurs, we get the rapid tissue destruction which takes place, for instance, in children suffering from infectious diseases.

Dr. J. FORD THOMPSON said that he had been at work upon scrofulous and tuberculous children for many years, but to the very thorough and able paper just read, he could add but little. He had been brought up to believe that there was a distinct difference between the two diseases, but the clinical distinction has now faded away. The picture presented by the Doctor is still seen, however, and the laboratories show children called scrofulous, in whom the tubercular germ cannot be found ; and these are the only ones to whom the term scrofula might properly be applied.

Dr. CHAPPELL said that he was partly responsible for the use of the two terms in the list of questions referred to. The committee wished to have all cases of tuberculosis reported, and inasmuch as some physicians might be of the opinion that scrofula is not tuberculosis, it was thought best to use both terms. He believes, and he thought the other members of the committee did also, that scrofula is a form of tuberculosis of the glands, but some apply it to all forms of tuberculosis other than that of the lungs. He wished to express his appreciation of Dr. Motter's most valuable and timely paper. He had been greatly benefited by it.

Dr. WOODWARD called attention to the fact that the Standard Dictionary recognized a difference between scrofula and tuberculosis, and that so far as it is an authority as to the meaning of words, scrofula is a constitutional condition and not a specific disease. He did not believe that the medical profession generally would accept its definition as correct

at the present time. He said that the Committee on Public Health had considered the advisability of using the term scrofula in the schedules prepared by it for use in connection with the investigation of the health of school children, and that while the members of that committee agreed that the term scrofula was synonymous with glandular tuberculosis, yet it was thought better that it appear in the schedule, so that those that did not agree with them in their belief would return the desired data. He recognized scrofula as a clinical term representing certain symptoms but involving no theory as to their causation, while the term glandular tuberculosis referred to the same symptoms but did involve a belief in their specific origin. He thought that the use of the term scrofula in the schedules as prepared by the Committee on Public Health was desirable and proper, inasmuch as such schedules were expected to go before physicians of all sorts and beliefs.

Dr. J. Preston Miller said: Most American authors agree that the word scrofula should be eliminated from our nomenclatures, and in the arena of didactics, when not wholly omitted the term is relegated to the lesser significance of the adjective, 'scrofulous.' When inquired of during my recent visit abroad I insisted that the word was no longer in use with us, and I did not hear it in Europe except on the Continent where the other word 'Kings Evil' is still quite common with the laity and is occasionally employed by the doctor. Bergman uses it freely when interrogating patients and sometimes when addressing students. Tuberculous and tuberculosis are now the words.

No part of Dr. Motter's paper was to me of greater interest than that describing the physical type in which we find tuberculous diseases most common and fatal. I find the doctor's rule, the orthodox one, depicting flat nose with light complexion, hair and eyes, the last bleary and blue, the 'gelatinous children of albuminous parents' of Bartholow. It is the lymphatic type of constitution and hence, the adenoids of the pharynx, enlarged tonsils, etc., which we remove these days in early childhood, after which, if not too much tampered with, they grow up giving us our strongest types of manhood in the male, and on the other side the most beautiful forms of womanhood, round neck and limbs with the undulations of thorax and hips which gives woman her greatest physical charm. They also present uric acid manifestations, eczema in childhood, boils and tonsilitis during adolescence, bronchitis and arthritis later in life. Persons of this type fare badly with diphtheria and succumb readily to typhoid, but in my experience seldom have pneumonia and almost never tuberculosis and herein I find my observation at variance with Dr. Motter's paper as well as our highest authorities. The flat nose of infancy may be flat no longer at maturity but is wide between the eyes, the mark of vigor and tenacity to life throughout animated nature. The opposite type, narrowness between the eyes, the thin, lanky, long and sharp nose, no adenoids or hypertrophied tonsils, but a long thin neck, prominent Adams apple, long and slender limbs, flat chest, may be wide or narrow but always short in anterio-posterior diameter of thorax, succumb, not to typhoid, but often to pneumonia and quickly to the invasions of the tubercular bacilli.

Dr. Ward said that the paper of the evening was very timely. The bacillus of tuberculosis must have a suitable soil for its growth and development, that soil may be scrofulous soil. We notice that some cases of supposed tuberculosis are amenable to treatment, while others are not, which suggests a possible difference between scrofula and tuberculosis. In every case of tuberculosis, we must suppose an antecedent hereditary predisposition to the disease, and a state of the tissues suitable for the development of the bacilli. The terms used to express this condition are unsatisfactory, and often misapplied.

Several terms had been used in this paper with a meaning not intended by those who used them 75 years ago, e. g. diathesis and cachexia. According to his understanding, cachexia referred to a diseased condition whereas the term diathesis was used to express a tendency to a diseased condition.

Dr. MOTTER, in closing the discussion, said that with all due deference to the dignity of the Chair, he had not questioned the propriety of the use of these terms by the Committee, or whether both or neither of them should be employed. His appeal was for more time, and more careful study of these conditions, by whatever name they might be known. His intention was also to arouse an interest in this direction and to render the results of the committee's work conclusive, whatever they might be. He thought also, that regular examinations of the school children of the city, by especially appointed physicians, might be of great advantage, as is the case in some other cities.

He believed that there must be good ground for the use of both of the terms scrofula and tuberculosis, inasmuch as they are employed by so many authors of repute. It is an interesting fact that William, in 1797, said that not more than one-fourth of the cases of consumption in London arose from the slow and successive suppuration of tubercles in scrofulous constitutions: 100 years later, Osler says that more than three-fourths of all cases of tuberculosis originate in cheesy lymphatic glands. A small book published by William Cowes in 1602, entitled "Frutefull and Approved Treatise for the Artificial Cure of that Malady called in Latin Struma, and in English, the Evil, cured by Kings and Queens of England," and which is in the library of the Surgeon General's office, is of interest in connection with this subject.

MEETING OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA IN MEMORY OF DANIEL WEBSTER PRENTISS, A. M., M. D.,

NOVEMBER 22, 1899.

In stating the object of the meeting, the President in the Chair, Dr. Busey, expressed deep regret that bodily infirmity would not permit him to address the Society in memory of Dr. Prentiss.

On motion of Dr. J. Ford Thompson, the President was authorized to appoint a committee of five to draft suitable resolutions upon the death of Dr. Prentiss.

The Chair appointed Drs. J. Ford Thompson, W. W. Johnston, T. C. Smith, A. F. A. King, and Francis P. Morgan.

After a brief recess, Dr. Thompson presented the following memorial:

The Medical Society of the District of Columbia having met to do honor to the memory of Dr. Daniel Webster Prentiss, who died at his home in Washington on the 19th day of November at the age of 58 years, adopts this memorandum and places it upon record.

Dr. Prentiss became a member of this Society in 1864, since that date he has been an active participant in its scientific work and a warm promoter of all measures that tend to advance the best interests of the profession.

The papers read by Dr. Prentiss have always added something real to existing knowledge; much of his work has been original and his writings all show the characteristics of his early work in natural science. The cases reported by him were usually of rare forms of disease or of conditions before undescribed. These reports were prepared with great care, and were models of exact description; no time or trouble was spared in making them as perfect as they could be made in all their details, and a paper

read by Prentiss was always a call for a large attendance of members.

In debate Dr. Prentiss said what was worth hearing, his range of knowledge was great, and there was rarely a discussion to which he was not able to add something of value. In his chosen department of therapeutics, he showed an advanced and original mode of thinking, and his statements on subjects of treatment were regarded as authoritative.

Few men have been less narrow in the manner of dealing with the more intricate problems of medicine; this quality was, undoubtedly, the result of continued interest in general science and of an association with men devoted to the most varied scientific pursuits. He was thus kept in touch with all the lines of advance and helped in his own work by the work of other scientific departments.

In his personal relations with his associates Dr. Prentiss was always the kind and sympathetic worker.

During the many years of our association with him in our meetings we have known him to be the same undeviating friend, the same earnest worker in the fields of science and the same devoted seeker after truth.

No monument can be more enduring than the record of a life devoted to the best interests of humanity, and as a practitioner of medicine he has gained the well-merited name of being a conscientious physician ever mindful of the welfare of those committed to his care. No toil was too great when his aid was asked for, and the obligation to his patient called forth the most active and persevering effort.

We can feel but the sincerest grief at the loss of an esteemed associate for whom during life we have had the warmest friendship, and whose memory we shall always guard as a precious possession.

This Society, in thus expressing its own grief, does not omit to feel the deepest sympathy for the afflicted family, and hereby tenders them its assurances of heartfelt condolence.

J. Ford Thompson,
W. W. Johnston,
T. C. Smith,
A. F. A. King,
Francis P. Morgan.
Committee.

Remarks by Dr. J. Ford Thompson.

Mr. President: In submitting the resolutions framed by your committee on the death of Dr. D. W. Prentiss to the consideration of this Society, I must acknowledge to some embarrassment at the inadequacy of such a report to fulfill the requirements of so solemn and distressing an occasion as the one in which we are now called upon to participate.

Death has been a frequent visitor of late to our ranks, and we have had to mourn the loss of men whose lives have been shining lights and whose memories we shall ever hold dear and cherish, but I recall no instance where we have had more reason for lamentation and sorrow than this, our last tribute to one who has commanded all through his professional life, the respect and admiration of his brethren and the love and gratitude of the community in which he passed his life.

Death is always sad and its contemplation in all its varied phases is a heavy burden which the medical man must bear as a part of the duties incident to his chosen calling, but it is something to which he can never become callous and which never fails to increase the wear and tear of his exacting labors, and when it enters our own circle to pick out

the noblest and the best, often it would seem, at an untimely age, we experience a sensation of despair that all our philosophical learning is helpless to alleviate. There appears to be but one poor consolation or recompense, and that is without effect upon those most near and dear, it is the admiration we naturally feel for him who dies a hero's death, for such is he who, in the midst of a successful and brilliant career, is stricken down whilst yet in the performance of the highest and noblest duties. And it is true that time would have added nothing to his reputation nor could it have changed the estimation in which his character was held, for his life was full and ripe and ready for the sacrifice, but it is all the more dear to those who knew and appreciated his noble qualities of heart and mind, and they can never cease to mourn his loss as irreparable.

His was a temperament and mind admirably fitted for a doctor's life, and I think the promptings of instinct directed him to the choice of a vocation in which he could best serve his fellow-men and satisfy at the same time his aspirations, and it is a pity that this is not always the case Certainly it is true, that our profession demands a pecular endowment for its highest purposes, without which its duties are imperfectly performed and the life it entails becomes irksome and unsatisfactory, whereas the natural physician not only patiently endures its cares and tribulations but sheds light and consolation upon all who come under his happy influence. No one, I am sure, who knew Prentiss well will question the fact of his possessing these attributes to a high degree.

He began the study of medicine with a well-trained mind and was gifted with scientific traits whose cultivation added materially to his reputation as a man and a physician, as the records of the various scientific societies of the country can richly testify. I made his acquaintance soon after his graduation, and his first professional experience was in a hospital with me, about the close of the civil war, and from that time to this we have been more or less associated in professional work, and during all this time he never failed to impress me as a man of solid worth, honest and upright in all the relations of life and worthy of the highest enconiums which may be offered this evening to his honor and memory.

Remarks by Dr. W. W. Johnston.

I have been very closely associated with Dr. Prentiss for many years and have learned to have the highest opinion of his qualities of mind and heart, and of the many admirable traits that made him a valued friend.

It may not be amiss to say a word about the series of conditions that have more than anything else influenced Prentiss' life and work during the last ten years. I mean the state of health that has taxed his energies and hampered him in all his efforts to develop the powers that he felt himself to be posessed of. This ill health was due to a slowly developing organic cerebral disease, fluctuating in its progress, yet cruelly and uninteruptedly progressive and ultimately fatal. Added to this there has been a permanent condition of debility or exhaustion due to overwork in the beginning, and kept up by continued overwork at a time when all work was injurious in the extreme. Thus the natural progress of a disease that might have been delayed or arrested was hastened to a fatal termination at an age, when, but for this, Prentiss would have been at his best. For years the battle was

fought bravely. Work was continued only by dint of great effort and with the help of an occasional enforced summer rest. For years it was Prentiss' custom to work continuously from morning until 2 o'clock, he then went to bed and remained until 4. His office work and dinner kept him until 5, and from then until 9 or 10 he was visiting patients outside. It was this daily afternoon rest that was absolutely necessary to enable him to continue his task from day to day. A supreme effort was made to recover strength and health by the complete abandonment of work for one year, divided between Bermuda and Europe. The result was not what was hoped for, and since then the struggle, kept up by the frequent cessation of work for short periods, has been harder than ever. After a summer in the Adirondacks he returned to the city apparently very much better, and his own hope of greater activity was shown in his pledges to prepare papers involving a great deal of labor for which he was clearly physically unfit. His lectures this winter were also given with renewed zest. But it was the flash in the pan; after a lecture at the college, sudden symptoms developed that soon proved to be those of sub-acute meningitis and death came in coma in 10 days.

I know of no greater heroism than was shown in Prentiss' life. It was not a battle of a day, but of years; not one deed of bravery, but a daily, hourly fight with an enemy who won at last, but who was beaten to earth many times. In all these years, Prentiss in his relations with his friends, gave no sign of what he endured; even to those nearest to him he was reserved as to the worst. He concealed almost to the end the knowledge that he would surely succumb before his course was fairly run.

More might be said but this is enough to show that our eulogies of our dear friend are based upon many qualities that can be divined rather than known.

Although such a sufferer, Prentiss' work as a practitioner was continued with unstinted zeal. For many years his practice was as large as he chose to make it.

His methods of work were very exact, and he gave great attention to details. This was shown in the careful recording of his cases, and in the minute directions he gave as to treatment. No one could meet him in consultation without being struck with the clearness of his views on all subjects. His mind was singularly broad and free from bias and prejudice and in his manner he impressed one as being a man without pretense of any sort.

When he met with a peculiar symptom or set of symptoms he did not rest until he had cleared away all the obscurities and made a correct diagnosis. This was shown in the case of syphilitic intermittent fever reported by him to the Society last year. In this instance he successively tried every possible theory by the test of reason and by employing every method of investigation. By exclusion of all other possible causes he finally reached the conclusion that the fever was of syphilitic origin. The specific treatment quickly confirmed this view and cured the patient.

Dr. Prentiss' sense of honor was of the highest; there was no balancing in mind between the claims of integrity and those of time serving. The scales were borne down only with the weight of honesty of act as well as of intention. Thoughtfulness and earnestness were his essential characteristics. His mind was

built on a serious model. How much of this was the result of his physical suffering it would be difficult to say. Conjoined to a natural gravity there was undoubtedly a state of mind that was the acquired habit of a personal experience.

Much more might be added, and much more would be needed to show all the different phases of a character so full of the best traits of the best manhood. I would, however, dwell only on those qualities that made him the type of a sincere, strong, earnest man, and a truth-loving, truth-seeking devotee of science.

Remarks by Dr. T. C. SMITH:—Dr. Smith said that the occasion of the meeting which had called the members of the Society together to do honor to the memory of Dr. Prentiss, was one of deepest sorrow to him inasmuch as there had existed between them a warm frendship for more than forty years, a friendship not disturbed by a shadow of difference, or unfaithfulness. He had become acquainted with Dr. Prentiss in his earlier years, and the results of the chance meeting showed how the course of one's life may be changed by a seemingly trivial event. He was very fond of hunting, and all birds were alike to him so far as interest in them went after he had brought them down. Upon one of his hunting excursions, he ran across Dr. Prentiss whom he did not then know, and noticed that it was the Doctor's custom to preserve carefully the birds which he shot, and afterward to stuff and study them. This lead him to study Ornithology, and brought him frequently in Dr. Prentiss' society. Subsequently, he introduced the Doctor to the lady he afterward married.

Dr. Prentiss always utilized good company and good friends, and so he made good use of his acquaintance with Prof. Baird, and under his tutelage, he became a skilled ornithologist. He became associated with Dr. Coues in publishing a list of birds found in the District of Columbia.

After this he began the study of medicine and soon after, introduced Dr. Smith to the dissecting room, the school then occupying the building where the printing office of McGill and Wallace now stands. It was not much of a building then, but good work was done there. The effect of Dr. Prentiss' influence was always elevating, and they graduated within a week of each other; afterward, they were married within a week of each other.

Dr. Prentiss got him into one great difficulty, and he had not succeeded in getting out of it yet; for at his instigation he was appointed Chairman of the Essay Committee in the Medical Society.

The interest which the Doctor manifested in the welfare of the Society was very great. He was always ready to read papers, take part in discussions, or present specimens. In a recent letter, he had signified his intention to read a paper at a meeting in January next, upon the subject of Tuberculosis. He did not then know what was ahead of him.

He was a hard and persevering worker, and his untimely death was largely due to overwork. He had told Dr. Smith sometime before his death that had he taken needed rest, he would not have broken down, and that this was a fact there can be no question.

The world has many heroes, but the medical profession has heroes greater than those in any other line of occupation. How many of our former associates can we now recall who were cut off

by an untimely death caused by overtaxing body and brain. Ashford, Drinkard, Carroll Morgan, and now Prentiss, and little thanks many of them got for their labors.

What he had said had been mainly from the point of view of personal friendship. Could he but speak to Dr. Prentiss now, he would like to paraphase the words of Mrs. Barbauld's beautiful poem, and say

> Friend, "We've been long together
> Through pleasant and through cloudy weather.
> 'Tis hard to part when friends are dear.
> Perhaps 'twill cost a sigh, a tear.
> Then steal away, give little warning:
> Choose thine own time:
> Say not 'good-night,'
> But in some brighter clime
> Bid me 'Good-morning'."

Remarks by Dr. A. F. A. King.

Dr. King said that he felt that he could heartily coincide in all that had been said as to the skill, conscientiousness, and eminent qualities of mind and heart of our late associate, Dr. Prentiss. He would confine his remarks to him as a teacher in the Medical School.

He could recall the first time that he ever saw Dr. Prentiss—at the end of the term, in 1861. He, himself was then a student about to graduate at the Medical School of Columbian University, which was located on E street, then running through Judiciary Square. There were only 60 or 70 students and every one knew every other, at least by sight. One day, two strangers entered, and took seats on the middle aisle—he could point out those seats now were the building still standing. The two were D. W. Prentiss and Eliot Coues. Probably it was Prentiss' intention to study medicine at that time. In a few months, however, the college sessions were suspended, owing to the buildings having been burned, and they were not resumed until two or three years afterwards. Dr. Prentiss therefore went to the University of Pennsylvania, from which, in due time, he graduated.

Dr. Prentiss' carreer in the Medical School began as early as '66 or '67. The lectures were then given in the old Fifth Street Church, where the Columbian Law Building now stands, and about that time an "auxiliary faculty" was established, composed of Drs. Prentiss, Todd, Middleton, J. T. Young, and himself. Dr. Prentiss was appointed adjunct professor of chemistry, and lectured upon mineralogy. He gave lectures in the summer course upon the diagnosis of special diseases. Some time later the acul ty discontinued the "auxiliary faculty," and the lecturers were unceremoniously dropped, without fee or reward, or even so much as thanks for their services. They felt that they had not been sufficiently appreciated, and he remembered that Dr. Prentiss especially felt the injustice—but all bore it as gracefully as they could. Upon the death of Dr. Riley, in 1879, Dr. Prentiss was appointed Professor of Materia and Therapeutics, and he filled the position almost uninterruptedly until a week before he died.

His career at the Medical School may be viewed from two aspects: first, as to his relations to the students; and, second, as to his relations to the faculty. As professor of materia medica—usually considered an uninteresting subject to lecture upon—he taught in such a way that there was no lack of interest, and no student slept during his lecture. He

had a dogged, earnest, persevering way of dealing with, and systematizing study, and of making it interesting. The dull portions were enlivened and made practical by descriptions of cases from his own wide experience, and that of other practitioners. He sought especially to render the students capable of writing prescriptions—such as they must needs write later. He remembered Dr. Prentiss sending to him, as Dean, bills for many thousands of prescription blanks for the use of the students in their work ; it was the right method because it was practical. He was always progressive, and was ever stretching out for any possible advance. Years ago, he took up in his instructions and his own prescription-writing — the metric system — which many of us cannot use today.

As lecturer, he never attempted anything like oratorical display. His was a clear, straightforward style of expression, which always held the attention, and imparted to the best advantage the information which he sought to convey to the students. No professor was more esteemed by them than Dr. Prentiss. In the examination room, while the standard which he required was high, he was ever a genial, kindly, and gentle examiner, avoiding in his manner anything which would tend to add to the embarrassment of the students who came before him.

As a member of the Faculty, and a factor in the government of the school, his judgment was good, and, although he was always the first to enter upon a new line of progress, he was the most ambitious of us all in this, he never over-stepped the mark of wisdom and prudence. When the proposition to borrow $10,000 or more to start a Dental School and renovate a building which was not ours, arose, he favored the plan, and now, 12 or 14 years later, we appreciate the wisdom of his decision. Hence, it may truly be said that in endeavoring to establish innovations and enter upon new lines of progress, he was always at the front, and judiciously at the front. True, he had differences with us, and with others, but his discussions were kindly and without animosity.

We remember the last time we saw him yesterday, surrounded by mourning friends and flowers. He now rests in peace. All we can do is to weave garlands of honor to his memory.

Remarks by Dr. C. W. Richardson.

I cannot allow this opportunity to pass without expressing my feelings and paying tribute to the memory of our deceased friend, Dr. D. W. Prentiss.

He has been to me not only a friend and adviser but my relationship which was brought about by the careful attention to the members of my household while acting in the capacity of family physician has been of the most intimate character.

I came to know Dr. Prentiss on returning to Washington and entering into the practice of medicine. I then learned to cultivate that fondness for him which ripened into the warmest affection and friendship. He was always ready to lend attentive ear and to give kind advice to the young practitioner. As a consultant he was always ready to listen and to advise and, if necessary, correct errors in a kindly and considerate spirit.

There is no tribute too high that one could pay to the memory of such a valued friend and kind physician.

Dr. Reyburn said that as we note the dropping away of these dear friends whom we have known so long, and when we think of the many who have

left us whom we knew 10, 20, or even 30 years ago, we are reminded that our time will soon come. It has been remarked that there are no martyrs now, but this is not so; the physician must give himself as a sacrifice, and in this trait Dr. Prentiss was preeminent.

He was not only a good physician, but an able scholar. As a scholar, gentleman, and physician, he stood without a peer. He could do no better in closing than to quote the lines.

"None knew him but to love him,
Nor named him but to praise."

Dr. Winter said that in the death of Dr. Prentiss he had lost one of the best friends he had in the profession. While they were about the same age, he had always felt that Dr. Prentiss was many years his senior, as he had graduated, and was practicing as a Contract Surgeon in one of the Hospitals in this city, during the latter part of the Civil War while he, Dr. Winter, did not graduate until 1870. They became friends about twenty-five ago, and it has been his privilege to aid the Doctor many times, especially before he moved to 14th street, as he was even then a sufferer from nervous exhaustion, his pulse rate being almost always over a hundred. Dr. Prentiss came to him when death entered his household, and gave him his sympathy, and stood with him at the open grave, and when it came time to stand by and see the body of his friend lowered into the grave, he felt like repeating, and did repeat in his heart, the words of the old hymn, "God be with you 'til we meet again."

Dr. Butler said that as one of the younger members, he could not let the opportunity pass without saying a word in memory of Dr. Prentiss. The Doctor had been his preceptor when he was a student, and he knew him as a kind, sincere and true friend, ever willing to give advice upon the many subjects upon which his counsel was valuable. We all remember his kindly words and manner, and count it a privilege to have known him, and we shall hold his memory dear.

Dr. Francis P. Morgan said that his acquaintance with Dr. Prentiss began in childhood when the Doctor called as the family physician; and he remembered clearly his dignified, yet kindly bearing, and the feeling imparted by his mere presence that all was well. As he had seen him in later years under different, often trying, circumstances, in the sick-room, he had grown to respect to the fullest extent his remarkable ability and skill in his chosen profession.

His whole life was characterized by a persistent and persevering devotion to duty. This was manifested even more in his later years as his bodily infirmity became greater, and he gave his last lecture only a week before he died. Before leaving his home for his last lecture, both Mrs. Prentiss and he had tried their best to persuade the Doctor not to lecture that evening, but his gentle but firm reply was characteristic. He said: "I have undertaken the work, and will go through it." Another remonstrance at the school met with a like response, and he barely finished his lecture before his strength failed. Dr. Prentiss' writings have added much of permanent value to the literature of Medicine. This is especially true of his researches upon the subjects of Anhalonium Lewinii, and Pilocarpin. He was a careful, accurate, and thorough investigator, and a lucid writer, and his conclusions carried weight and conviction. A list of

Dr. Prentiss' writings is as follows:

"Report on Disinfectants to the Board of Health of the District of Columbia." 1867. "A Case of Morphine Poisoning." 1867. "Diphtheria and Tracheotomy," "Membraneous Croup," "Operations for the Radical Cure of Hernia." 1868. "Case of Inflammation of the Fibrous Capsule of the Eyeball." 1868. "Case of Spurious Labor Pains at the 5th Month." 1870. "Convulsions after Profuse Hemorrhage from Abortion at the 6th Week." 1870. "Obstruction of the Bowels in an Infant, with Autopsy." 1870. "Hysterical Tetanus." 1879. "Case of Mastoid Abscess Opening into the Lateral Sinus and Death from Pyaemia." 1882. "Is Croupous Pneumonia a Zymotic Disease?" 1874. "Chorea in Pregnancy." 1874. "Abscess of the Liver." 1874. "Case of Double Hydronephrosis, with Specimen," 1883. "A Remarkable Case of Hysteria, with Paralysis and Aphasia." 1883. "Cases of Poisoning by Atropia, by Opium, and by Quinine." 1880. "On the Revision of the Pharmacopoeia of 1880." 1881. "Death from Diphtheritic Paralysis." 1881. "Remarkable Change in the Color of the Hair from Blonde to almost Black in a Patient while under Treatment by Hypodermic Injections of Pilocarpin." 1881. "A case of Prolonged Anuria." 1881. "Membraneous Croup Treated by Pilocarpin, Change in the Color of the Hair." 1881. "Overdose of Podophyllin." 1882. "Maternal Impressions—Effect on Foetus." 1882 "Answer to a Protest Against the use of the Metric System in Prescription Writing." 1883. "Croupous Pneumonia." 1880. "Report of the Pharmacopoeial Convention of 1880." "Avi-Fauna Columbiana." By Drs. E. Coues, and D. W. Prentiss. "Gall-stones, or Soap." 1889. "A Report of 500 Consecutive Cases of Labor in Private Practice." 1888. "A Case of Change in the Color of the Hair of Old Age to Black, Produced by Jaboraudi." 1889. "Three Cases of Poisoning by Japanese Lacquer; by Pellets Labelled 'Rhus;' and by Cashew Nuts." 1889. "Report of a Remarkable Case of Slow Pulse." 1889. "Purpurea Hemorrhagica Rheumatica." 1890. "Apoplexy Following La Grippe." 1890, Paper on Pilocarpin, read by invitation before the N. Y. Academy of Sciences." 1893. "Cases of Poisoning by Exalgine, Cannabis Indica, Arsenic, and Camphor." "Anhalonium Lewinii-Mescal Buttons." By Drs. D. W. Prentiss and F. P. Morgan. 1895, "Mescal Buttons." By Drs. Prentiss and Morgan. 1896. "Mescal Buttons: Therapeutic Uses, by Drs. Prentiss and Morgan: Plant and Ceremony by James Mooney." 1896. "Five Cases of Mushroom Poisoning, Three of which Proved Fatal: Treatment of the Poisoning." 1898. "A Case of Syphilitic Fever." 1898. "Bermuda as a Health Resort." 1898. "Three Cases of Paraldehyde Habit: Three Cases of Administration of Formaldehyde by Mistake." 1899.

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Respiratory Lesions of the Grip.

The most serious complications of the grip are the bronchial and pulmonary inflammations. They are far more serious and fatal when complicated with this disease or immediately following it than under other conditions.

The reason for this is that the patient's vitality is so reduced by the principal disease that he is not able to resist the inflammatory process of pneumonia or bronchitis, or to throw off the exudates. Thus a localized pulmonary lesion, which he would ordinarily be able to control, is on account of his feeble vitality, allowed to extend, or the tissues break down, forming an abscess, in either case frequently with fatal termination.

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Therapeutic Notes.

Mercurol in the Treatment of Gonorrhea.

At a meeting of the Genito-Urinary Section of the New York Academy of Medicine, held on the 21st of March, Dr. Ferd. C. Valentine reported a case of acute gonorrhea treated by Mercurol irrigations. The patient was an American, aged 32, married, the secretary of a corporation; and was unusually anxious to get well with as little loss of time as possible. He had had several previous gonorrheas, resulting in stricture. On January 21 last while inebriated he had coitus extra domum. Three days afterwards he found a free yellowish discharge, with the usual pain on urination. He at once put himself under treatment, and for ten days was irrigated regularly with mercurol, for a part of the time twice a day. Discharge was reduced from a free yellow flow to a slight pinhead drop by the first irrigation of mercurol, 5 per cent, and the urine became clear. Microscopic examination of a specimen of the discharge, which was taken on the first day, showed numerous gonococci characteristically grouped in pus cells. Two days later, after the fifth irrigation, the gonococci were found to have disappeared. A burning sensation was experienced after the irrigations, but the strength of the solutions being reduced, the pain gradually became less, and ultimately ceased. While he did not present the case as absolute proof of the applicability of mercurol as a gonococcicide, he thought the results obtained were sufficiently satisfactory to warrant further tests. The preparation, he added, was a new one prepared by Dr. Karl Schwickerath of Detroit.

Dr. Ramon Guiteras said mercurol was being used at the New York Post-Graduate Hospital. The treatment was less drastic than that described by the reader of the paper, the custom at the institution referred to being to commence with small dosages and gradually increase their strength, especially when new preparations were being experimented with. In the case of mercurol they had commenced with as mild a solution as one-half per cent, and finding favorable though rather slow results, they had gradually increased it, until now a solution of 2 per cent was given to all patients who presented themselves at a clinic devoted exclusively to this mode of treatment, of which Dr. Otis K. Newell has special charge. He (Dr. Guiteras) was not sanguine about the discovery of a germicide which would cure gonorrhea in the brief time their unprofessional brethren with their remedies claimed to be able to do, but on the other hand he did not wish to be regarded as a pessimist, and if mercurol proved to be as much of an improvement on protargol and argonin as they had done on permanganate and nitrate of silver, it proved at all events that they were progressing along the correct lines.

Further reports of experiments in progress with mercurol are to be given at future meetings.

Hyperemesis Gravidarum.

Dirmoser believes that auto-infection from the intestinal tract is the usual cause of hyperemesis and that the etiological importance of hysteria is largely overestimated. He refers to the similarity of postmortem changes in hyperemesis and acute infection. Urinary analysis shows an increase of indol, skatol and other products of retrograde metabolism, also albumin, acetone and peptone. Organic structural elements are found in the urine, indicating a nephritis. There exists an individual predisposition, probably owing to the abnormal condition of the intestinal canal. The best treatment for this obstinate and often serious complication of the pregnant state would be intestinal adtisepsis, and the author states that the results obtained from such treatment will be published at a later date. *Am. J., Obst.*, 1900, xli, 1e0.

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Sa metto in Chronic Orchitis.

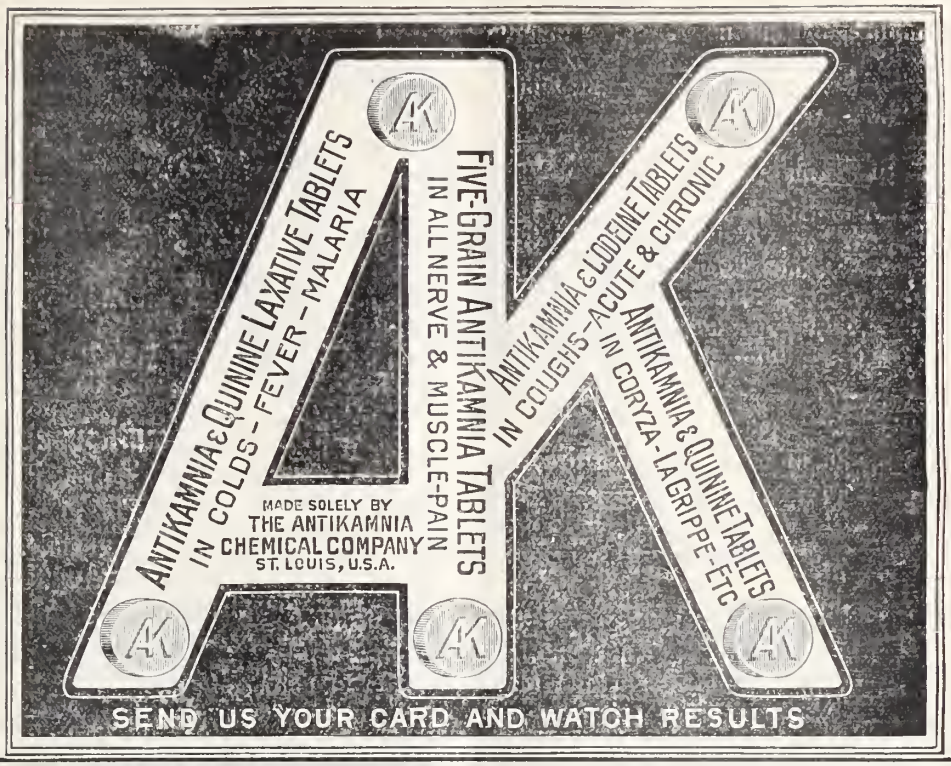
J. A. Stothart, M. D., Savannah, Ga., reports the following case: "During November 1898, a Greek fruit vender called at my office, suffering with chronic orchitis. The patient stated that the first attack occurred four years prior to this time. During the four years there had never been more than two and a half months between the attacks. He had been under treatment most of this time, and several times in the hospitals, and had been discharged as cured by several physicians. The testicle had almost arrived at the condition of ossification, but at no time had there been any pus formation. I prescribed Sanmetto, and directed that the treatment be continued for two or three months. My treatment was carried out to the letter, and there has never been any return of the trouble since beginning the use of Sanmetto. I have used Sanmetto in other urethral troubles with very satisfactory results."

Uric Acid and its Elimination.

Editorially (*The Medical Brief, February, 1900*) this vital subject is ably considered. Investigation strengthens the belief that eating too much meat is responsible for the formation of uric acid in disease-producing quantities. To dispose of meat satisfactorily gastric digestion must be active, the constitution well supplied with fluids and the organs more or less actively engaged in growth and development. These conditions cease to exist when adult life is reached and the requirements of the constitution are chiefly for food to supply energy, heat and vital stimulus. At this period in life a small amount of meat or other albuminous food will suffice, especially in torpid systems or persons of sedentary habits. The symptoms caused by an excess of uric acid depend upon the degree of saturation and whether these morbid products are circulating in the blood or are precipitated in the tissues or joints. The susceptibility of the various organs and the constitution of the individual also help to determine the symptoms; one person may have asthma, another an irritable bladder, and another sick headache or rheumatism. In the treatment diet is highly important. Meat once a day is often enough. Fresh fruit, especially apples, should be eaten in abundance. Tomatoes are excellent, so is asparagus. Baked bananas and well done rice are excellent substitutes for meat. Pure honey is always allowable. In uncomplicated cases lithiated hydrangea will be the only remedy needed in addition to dietetic reform and plenty of water.

A Case of Sinus.

G. W. Bodey, M. D., Kettlersville, Ohio, September 17, 1899, says: I used Ecthol on a case of sinus extending from the inner and middle of the right thigh upward and outward nine and one-quarter inches in length. It had been operated upon in that locality twice, also once on the canal from the psoas abscess, its starting point. The sinus was lined with a tough pyogenic membrane, so that by inserting the index finger its full length occasioned no pain. The young man, twenty-two years old, would submit to no further operation. I inserted perforated rubber tube, one-half inch in diameter, nine inches, burned or destroyed the membrane with chloride of zinc solution, after which I used Ecthol, filled the cavity completely full three times a day, by which the pus ceased to flow from the very beginning.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ment and mortality statistics of the Massachusetts General Hospital for the last seventy-eight years, concludes as follows:

(1) The treatment of typhoid fever does not differ in essentials from the principles laid down in 1839.

(2) The average mortality from this disease has not materially changed from the days of active treatment with emetics, purgatives, venesection, antimony and calomel down to the present time.

(3) Intestinal hemorrhage, perforation and relapse, upon the whole, are quite as frequent now as at any period in the history of the disease.

(4) A considerable variety in diet may be permitted not only without detriment, but also with possible benefit to the patient. *Med. Standard*, Chicago, 1900, xxiii, 35.

Pepto-Mangan ("Gude") in the Post-Operative Treatment of Gynecological Cases.

Elizabeth A. Riley, M. D., Superintendent of the Woman's Charity Club Hospital, Boston, Mass., in a recent number of the Annals of Gynecology and Pediatry, writes as follows: Through the the kindness of M. J. Breitenbach Company, I was enabled this past spring and early summer to employ their Petro-Mangan ("Gude") in quite a number of surgical cases under my care in the wards of the Woman's Charity Club Hospital in the service of Dr. E. W. Cushing.

The great success of the remedy as a tonic, blood maker and tissue builder prompts me to report the following cases, which are not exceptional, from the hospital records.

Case I.—Mrs. E. L., age 24, admitted March 6. Diagnosis: retroversion and endometritis. History of pain in left side and lower back whenever she works, since the birth of child five years ago. Catamenia very profuse. Operation March 10. Cervix was mechanically dilated and the endometrium steamed for 30 seconds. She did not wish further operative treatment and was discharged improved March 21. Readmitted April 20. Operation April 26. Tubes and ovaries were found normal. Ventro-suspension was performed. At the time of operation the heart was rapid and irregular. The administration of Pepto-Mangan was begun on the 27th in dose of a teaspoonful. This was increased to two teaspoonfuls the second day and a tablespoonful the third day, given three times a day after meals. Convalescence was rapid. Heart action quickly steadied. Discharged May 17, well. After reporting a number of interesting cases, the author concluded as follows:

The above cases, even thus imperfectly reported, seem to indicate that in this preparation we have a very valuable assistant in the convalescence of operative cases. Especially is this true in those cases which have lost a large amount of blood or which have become nervously exhausted by constant fret of pelvic disease. Capital cases, too, find in this a most excellent tonic, easily borne and assimilated at a time when any medicine, however efficient, must not cause abdominal or gastric irritation.

Epilepsy.

Dr. Edward Francis Brady in an article entitled epilepsy, (Hospital Bulletin and Clinical Reporter) says: I do not approve of the Gowers plan of treatment. The dosage is too massive and I think unsafe. The danger from collapse is always to be feared, and if this is escaped bromism is almost certain to be produced. I think that the combination of all the bromides, the potassium, sodium, ammonium, calcium and lithium is the best form in which to use them, for that reason I always use Peacock's Bromides This preparation contains the five bromides and is a safe, reliable and staple article, and by its use we escape the substitution of pharmacies.

The Respiratory Lesions of Grip.

A physician, who has a large general practice in Washington, recently wrote: "I do not know how I could have so quickly and surely allayed the respiratory lesions in our recent widespread epidemic of grip, had I not used Firnol Comp. Here at last is a local application, easy to administer and speedy and positive in its effects."

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Unpleasent Effects of Orthoform.

In the issue of the *N. Y. Med. J.*, 1899, lxx, 976 Dr. G. E. Decker, of Davenport, Iowa, cites two cases of dermatitis following the use of orthoform which are very interesting, as they go to prove that there is still much to be learned in regard to this peculiar drug. Aside from the following case, invariable good results have followed the use of orthoform in my practice. My experience was similar to Dr. Decker's and his article in your journal threw some much needed light on this case, inasmuch as I was in doubt as to the true character of the disease.

A machinist, twenty-eight years old, came to my office with suppurative cellulitis of the right forearm following an injury and infection of the hand. The suppurating foci were slit up and thoroughly cleansed with peroxide of hydrogen and 1-to-2,000 bichloride solution, and dressed with orthoform powder. These dressings were repeated every day for a week, the arm doing well. At the end of this time there appeared a peculiar dermatitis surrounding the incisions, which spread rapidly until nearly the whole arm was involved. The surface appeared red, swollen, and covered with small confluent blisters containing a sticky, serous fluid. After a few days many of the blisters coalesced and broke, drying up and leaving a yellowish crust. A peculiar branny odor emanated from the involved surface. There was no pain on pressure or manipulation, but the most intolerable itching was constantly complained of, and at one time the patient became nearly delirious from this cause. There was some slight elevation of temperature.

After many remedies had been tried without any result, hot applications of witch hazel were used, when the itching immediately ceased and the dermatitis slowly disappeared.

During the first stage of this disease the appearance was very similar to that of the dermatitis caused by *Rhus toxicodendron* poisoning, but as it progressed all similarity ceased.—H. H. Wilson, M. D., Clayville, N. Y., Dec. 6, 1899.

Infantile Diarrhea.

Dr. D. E. Smith, of Minneapolis (Northwestern Lancet, November 15, 1899) states that in cases of diarrhea characterized by copious serous discharges it is necessary to resort to some astringent which should be antiseptic and not absorbed to any extent. Tannic acid was the drug par excellence, but it has been dismissed by the profession on account of its unpalatability, its bulk, its taste, its rapid absorption in the upper intestinal tract, and its rapid decomposition. Recently a chemical combination of 87 per cent tannic acid and hexamethylen-tetramine has been introduced under the name of tannopine, which the author considers an ideal remedy in this class of cases. It is given in small doses from three to ten grains every three hours. It does not break up until it comes in contact with the alkaline medium of the lower intestine, when the tannic acid is freed and the hexamethylen-tetramine liberates the most desirable of antiseptics, formalin. Children take tannopine readily as it is taeteless and small in bulk. It may be given either on the tongue or in any kind of nourishment. The formalin destroys the germs already attenuated by previous treatment. As soon as the serous discharge is stopped there is an immediate improvement in the patient's condition.

New Method of Skin-grafting.

Kellock (*Lancet*, November 25, 1899) has hit upon a method for providing a large piece of skin for use as a graft. By the ordinary methods, if a thick piece of skin is taken it fails to unite, whereas a thin Thiersch graft, while uniting easily, does not prevent cicatricial contraction. The author's method is to mark out a square piece of skin and to cut on its four sides a thin Thiersch graft, leaving it attached in the central portion which is then dissected up from the subcutaneous tissue. Such a graft, if properly applied to a raw surface will unite almost as readily as an ordinary Thiersch graft, while its thick center, comprising the whole thickness of the cuticle, limits cicatricial contraction. The wound caused by its removal may be approximated by sutures or may be covered by a thin graft. *Med. News, N. Y.*, 1900, lxxvi, 18.

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Permanganate of Potassium as an Antidote.

The powerful oxidizing properties of permanganate of potassium have rendered it valuable as an antiseptic and disinfectant, but its properties as an antidote for various poisons are not so generally known. It has been prescribed with success by Bokai and other physicians in the case of phosphorus, which it transforms into orthophosphoric acid. It has been used by Autail for oxalic and hydrocyanic acids, and their salts, as well as for strychnine and other vegetable alkaloids. Pyle Koemer has employed it in the case of poisoning by opium, and Lacerda for serpent bites and those of venomous insects, spiders, etc. Several years ago the physician Hugoneng showed its action against atropine, aconitine, caffeine, cocaine, etc. In a recent work, an Italian physician, Paratore, has remarked its effect upon the vegetable alkaloids, such as nicotine and aconitine, and also upon the vegetable poison curare He has studied its action in cases of poisoning by strychnine, comparing with the usual antidotes such as tannin and iodine. As result of his researches he finds that the permanganate is superior to the others, whether employed in direct injection or in cleansing of the stomach. *Scientific American.*

Threatened Invasion of Bubonic Plague.

The fact that a number of cases of bubonic plague have made their appearance in San Francisco has given the United States Marine Hospital Service, the sanitary watchmen of our country, no small amount of alarm Dr. Kinyoun of this service, who is the highest living authority on epidemic diseases, was called to the Pacific coast and verified by post morten and bacteriologic examination that the disease was true bubonic plague and urged the most rigid sanitary measures. There can be no question that this disease is the most frightful and rapidly fatal of all contagious diseases. The mortality rates of small pox, typhus and yellow fever sink into insignificance compared with that of bubonic plague. One epidemic in Constantinople caused ten thousand deaths in one day. In Bombay there were recently over one hundred and sixty thousand deaths within a very short time. Out of sixteen hundred cases in Hong Kong there resulted fifteen hundred and forty one deaths. Such a disease is truly to be prevented from gaining a foothold in this country.

The specific organism of bubonic plague is conveyed mostly by shipping. This organism was discovered independently by Versin and Kitasato in 1894, since which time there have been constant efforts on the part of bacteriologists to produce a prophylactic either in the form of a serum or vaccine. These investigations have met with the most successful results. Haffkine, a leading scientist, prepared a vaccine which has robbed the plague of its terrors. Barker and Flint of Johns Hopkins University, compiled statistics of the plague cases in Manilla which show that the mortality in the unvaccinated is seven times greater than in the vaccinated.

With their usual scientific enterprise, the H. K. Mulford Company of Philadelphia and Chicago, have fitted up a separate laboratory for the preparation of Haffkine's plague vaccine and are shipping large quantities of it to the Orient. The laboratory in which the Plague Vaccine is prepared is several miles distant from their Antitoxin and Vaccine Laboratories We have just received a valuable pamphlet from the Mulford Company that contains a concise and complete description of the cause, development, symptomatology and prevention of Bubonic Plague. It is particularly valuable now at the time when the disease has placed the entire Sanitary Corps of the government on the alert. The pamphlet, we believe, is sent free by the Mulford Company to all physicians requesting it.

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We can send you hosts of case reports, "blood counts," hæmoglobin-estimates, etc., as confirmatory evidence. If you wa..t to prove it yourself, send for samples.

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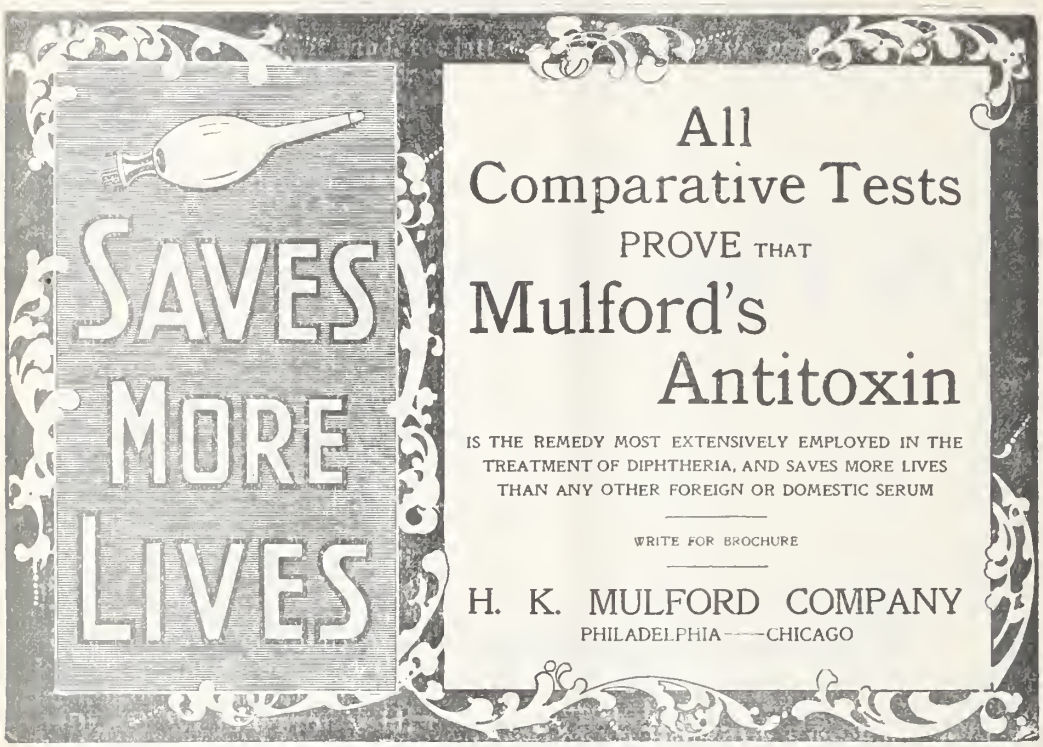

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MEETING OF NOVEMBER, 29th, 1899.
Dr. BUSEY, President, in the Chair.

1. Fungus Foot of India.

Dr. LAMB said that only five cases of fungus foot have been reported from America. They were reported by Adami and Kirkpatrick in 1895; Hyde and Senn, 1896; Pope and Lamb, 1896; Wright, 1898; and Arwine and Lamb, Am. Jour. Med. Sciences, Oct. 1899. The characteristic appearance of the specimen was not due to the enlargement of the extremity, which is very much like that of elephantiasis but to small elevations called "buttons" which are seen down the sides of the limb, and on the foot, and which are really the outlets of fistulous sinuses. Dr. Lamb exhibited the tibia and fibula, which presented characteristic appearances: much of the bony tissue had undergone disintegration, and in small cavities upon its surface, and in the sinuses also, there were yellowish brown rounded masses varying from one to three m.m. in diameter, which were found to be made up of a fungus—one of the actinomyses. Dr. Lamb exhibited photographs in further illustration of the subject.

Although fungus foot is a disease of great rarity, in this country, it is comparatively common in the East Indies, where the natives are accustomed to going barefoot, and their work calls them to ploughed fields. The fungus undoubtedly gains entrance through abrasions of the feet, developes, and the process extends through the tissues upward, involving also the bone. In the specimen exhibited, the entire lower half of the leg, as well as the foot, was involved. The only remedy for the disease is amputation. Efforts to destroy the fungus have proved futile.

Dr. Foster read a paper entitled: "Common features in Neurasthenia and Insanity; Their Common Basis and Common Treatment." (Not received for publication.)

DISCUSSION.

Dr. A. B. RICHARDSON said that he wished to express his appreciation of Dr. Foster's excellent paper, and also his endorsement of the views which he had enunciated. It is to be presumed that one who gives his attention to nervous diseases is always ready to speak upon neurasthenia, but to speak intelligently and instructively, requires careful preparation, and this he had not been able to do in the time allowed him, and what he would say was based upon his recollection and clinical experience only.

He had for many years observed that the primary condition in every case of mental disorder is emotional depression. This may, in many cases be explained by the fact that the patient is conscious of his condition, and only too well appreciates his approaching malady. In old times, this primary mental hyperæsthesia was called "irritable weakness" or "functional debility."

He agreed with Dr. Foster in his presumption that the primary pathological condition in neurasthenia, and the primary condition preceding serious mental disorder, were very similar and practically identical. He did not agree, however, that the various forms of mental disorder are merely advanced stages of neurasthenia. Most authorities will agree with him that the course of neurasthenia tends to chronicity, and that it does not tend to go on into mental disorder in many instances. We also know that most forms of insanity are comparatively seldom preceded by neurasthenic symptoms. He believes with Gowers, that we should restrict the use of the term neurasthenia as closely as possible. It is at best but a name for a group of symptoms, and we should only employ it when we cannot ascertain the underlying pathological basis of the condition. The difference between primary mental disease and neurasthenia lies in the fact that whereas there exists a unity of the entire nervous system, there is, nevertheless, a differentiation anatomically in its functions: in mental disease, there is disturbance of the psychic domain, and incidentally, of the special senses, sensation, etc. In

neurasthenia on the other hand, the latter are primarily affected in their cortical centers, although the one no doubt overlaps the other. In neurasthenia we may also have some disturbance of the mind, but this is usually subordinate to the neurasthenic symptoms. In primary mental disorder, we may have motor, sensory, or special sense disturbance, but these are secondary and subordinate, not primary. An important difference also, is that in insanity there is greater tendency to hereditary predisposition to the disease, as is shown by the presence of the same disorder in the ancestry—and this predisposition more frequently exists before the mental balance is lost—that exists in neurasthenics for the production of neurasthenia. The reason for this is that neurasthenia shows itself largely by disturbance of the special senses, and is possibly more directly caused by environment; while in insanity, the hereditary predisposition is a prominent factor, and the environment is of less importance.

Dr. W. W. JOHNSTON said, that the Society owed much to Dr. Foster, inasmuch as he had presented in concrete form knowledge which was to a considerable extent vague and inaccessible to the physician; and if one were able to read the paper carefully, he would find much to aid the doctor in his daily contact with disease. It is the interpretation of facts of daily observation, and the connection of these hitherto disconnected facts with well recognized pathological processes that constitutes the value of Dr. Foster's paper.

Only a few years ago, the use of the term neurasthenia caused a smile; it was an inexact term used to express an indefinite group of symptoms. When he first read Beard's book, he thought that the whole universe of symptoms had been included under the term neurasthenia. But now the arrangement and classification of the symptoms are approximately complete. We are also able to fix the symptoms as associated with certain definite cell changes. This renders less incomprehensible the consideration of the subject.

Synopsis of Argument.

1. All nerve impulses originate in cells. 2. Normal function needs integrity of cell. 3. Expenditure of energy and waste from functional activity is proportional to the degree of such activity. 4. Waste and lost energy repaired by rest and food-nutrition. 5. Waste and lost energy if in excess of power of repair by normal amount of rest and food is followed by lessened energy in impulses or perverted impulses—Neurasthenia. 6. Same result from diminution of rest and food without increase of functional activity of cell. 7. Etiology. Neurasthenic symptoms are fatigue symptoms, lessened energy, and include anatomical change in cell. 8. Neurasthenic symptoms are general, involving vaso-motor and sympathetic systems, mobility and sensibility, secretion, involuntary muscles. There are also psychical disturbances.

The diagnosis of neurasthenia is based upon the history of each individual case. Heredity has much to do with the appearance of certain symptoms—a neurasthenic tendency or type showing itself in a tendency to early degenerative changes in the nerves, and to their ready failure of function when subjected to strain. In some families, overstrain results in early breaking down of the nervous strength. Nationality is a predisposing influence. Some nations are of a more decidedly neurasthenic type than others, with resulting peculiarities of temperament and character. There is no question but that there are children who are neurasthenic from birth, and who are unable to reach a perfect nerve development. Another question of importance in this age is that of precocity. Precocity is a manifestation of an over-irritable nervous system, due to inherent defects of structure or to the premature strain of the brain in childhood. It is an evidence of weakness and disease, not of strength or of health.

One who is engaged in practice, and meets with many cases of neurasthenia, is struck by the number of such cases

which have not been recognized in their early stages, and which have been allowed to go neglected, and how often the treatment and the physician have been changed, and proper treatment delayed, until the disease is almost incurable. If the pathology of neurasthenia—the anatomical changes in nerve tissue as described by Dr. Foster—were more widely understood, the treatment of the disease would be much more successful than is now the case. For instance, how often do we see a patient suffering from cardiac trouble, treated for heart disease when the nervous system is really and primarily at fault. Cardiac palpitation, cold hands and feet, perverted nutrition, and the phenomena of disturbed digestion are often the result of neurasthenia. Recently he has had under treatment a man who was for a long time considered a "dyspeptic" and treated on this theory with no benefit. He was put to bed for two or three weeks and was fed most liberally from the beginning: in proportion to the amount of food which he received, his dyspepsia improved, and his weight increased. No disorder is more misunderstood than this condition of indigestion due to neurasthenia. It is sometimes called "atonic dyspepsia,"—a good term if we remember that the primary lesion is in the nerve centers. He also recently has had under his care a man who suffered from morning nausea and vomiting. He was not intemperate. With restoration of nerve power by rest in bed and an abundant diet, the symptoms ceased.

Another condition which he would class as neurasthenia without hesitation, is mucous colitis—"membraneous enteritis." There is now in the University Hospital a neurasthenic patient who is passing these masses, or shreds, some of them 6 or 8 inches long. The primary trouble in this condition is in the nervous system; it is not a bowl disease at all, and should only be treated as a symptom of neurasthenia.

If one enters the field of gynaecology, he is forced to acquiesce in the sentiment expressed by Goodell, that many of the diseases peculiar to women are but symptoms of primary disturbance of the nervous system. He is often surprised to note in the papers by gynaecologists that so little importance is given to the nervous system, in considerating the treatment of these conditions.

The symptoms of neurasthenia as shown in the genito-urinary system are interesting. Some years ago, he read a paper before this Society, in which he reported cases of excessive excretion of urates, and the symptoms associated therewith. We now know that an excess of urates or of phosphates in the urine is often an indication of nervous disorder: and to be successful, the treatment must be directed to the nervous system.

No satisfactory explanation as to the nature of the condition known as oxaluria, or of the proper method of treating it, is given in the text-books. The usual suggestion as to treatment is that the patient be cautioned to avoid such articles of diet as are known to contain oxalic acid. From certain cases which he had observed, he believed oxaluria to be one of the manifestations of neurasthenia. In support of this, he presented the record of the case of a student, a hard worker, who was also employed during the day, and who was accustomed to take very little exercise. Toward the end of the session, he began to have irregular pains in different parts of the body—the limbs, chest, and elsewhere which were much like gouty pains in character. During the following summer he exercised to too great an extent, and in the fall, he returned to this city. Examination of his urine then showed a great excess of phosphates, and oxalate crystals in enormous numbers, also hyaline casts. He had been examined from head to foot and no organ in his body was found to be diseased the only trouble being these peculiar pains, and the oxaluria. Under rest, hydrotherapy, and an abundant diet, these symptoms improved decidedly, and he believes that the symptoms were due to exhaustion of the nerve cells from over-strain, perverted nutrition, and an alteration in the normal chemical processes of the body.

The psychical disturbances of neurasthenia are usually due to a persistence of the causes which originated the disease. Although, as Dr. Richardson had said, neurasthenia rarely runs into insanity, yet the mild forms of insanity which we see are often associated with neurasthenia, and indeed are forms of neurasthenia. Only a short time ago he saw a case of sexual neurasthenia which ended with suicide.

The neuralgia of neurasthenia is most interesting. He remembered one interesting case in which it was localized in the ball of the thumb. The patient was seized with agonizing pain after returning home from a dentist's, by whom she had had a tooth extracted. She was almost in a state of collapse, and was confined to her bed three months. Another case was that of a patient, now in the University Hospital, who suffers from persistent epigastric pain. The localization of the pain in the back of the neck, occipital pain, is also characteristic; and the overtaxed man, woman or child, who suffers from persistent occipital headache should be treated for neurasthenia.

As to the treatment of neurasthenia, he believes with Dr. Foster in the importance of overfeeding, rest, and hydrotherapy. The restoration of structure and energy can only be brought about by these means. The result is that all of the tissues of the body undergo exaggerated nutrition, and the exhausted cells receive a part of this general nutritional result, and improvement follows. Proof of this is that as the patients gain in weight, all their symptoms improve. The gain in weight is the best guide as to the improvement of the patient. Some however do not gain, they do not recover; also, a few gain in weight but not in general condition. In these, the destructive process in the nerve cells has gone so far that no restoration is possible; and overfeeding and consequent gain in weight does not restore structure and energy. He has under treatment a patient suffering from neurasthenia and obesity at the same time. The latter has been reduced, but the neurasthenia has become worse. It is a fact that many cases of obesity are combined with neurasthenia.

The most difficult cases to cure are those having congenital defects of structure; hence the importance of heredity in the production and course of neurasthenia. On this account children with hereditary precocity are the least liable to be benefited by treatment.

Much harm can be done by the administration of stimulants and stimulating tonics to neurasthenics. A tired horse is not made more strong by the whip. In the same way any excitement of the nervous system by alcohol, strychnia, etc., is irrational; and all forms of stimulants have a harmful effect. Most of these neurasthenic patients early resort to alcohol to better enable them to undergo the strain to which they are subjected; but all should be impressed with the fact that such treatment is injurious.

He could not recollect that a paper so practically useful had been presented before the Society for a long time, and he would be glad to see its principles more generally adopted.

Dr. S. S. Adams said that the paper had already been so thoroughly and ably discussed as to leave little to be said. In 1894 Dr. Deale and he prepared and presented before the Wash. Obstetrical and Gynæcological Society, a paper upon "Neurasthenia in Young Women", and it was subsequently published in the Am. Jour. of Obstetrics. He then maintained that neurasthenia was a disease due to impoverishment of the nerve cells of the body, and he had since found no reason to recede from the position then taken. He was glad that Dr. Foster had emphasized this factor in the etiology of the disease. Neurasthenia is a unique condition, caused by a lack of proper metabolism in the body, which leads to impairment of function, either transient or permanent, in the nerve cells, the result of which is a condition of nervous hyperexcitability. This condition frequently becomes apparent in young women at the time when the most important anatomical and physiological changes are

taking place and the condition of the tissues is such that they respond readiy to sli;ht impulses—under the 25th. year —the period of greatest fecundity and fertiliy. This is true not only of young women, but also of young men.

When Beard first directed attention to neurasthenia, and later, Weir Mitchell, there was a certain opprobrium attached to the term: it was spoken of as the "American Disease." The same was true of appendicitis. He remembered how one professor was sneered at for making a diagnosis of appendicitis. It has been so with many diseases. But we now know that had the proper diagnosis —appendicitis—been made, the lives of many who died from peritonitis would have been saved by operation. And so it is with neurasthenics. He knew of no class of patients whose condition was more pitiable—they did not receive the sympathy of their friends, or the attention they deserved from the physician.

They were considered to be "cranks" or "sufferers from hysteria," and so they went from one physician to another and finally fell into the hands of quacks, or tried suicide to get rid of their troubles.

The diagnosis of neurasthenia is usually made without difficulty. Hysteria, with which it might be confounded, is an impulsive disease, and is characterized by paroxysms or "nervous explosions"; the course of neurasthenia, however, is chronic. In hypochondriasis, patients are usually healthy and robust, with no physicial debility—just the opposite of the conditions found in neurasthenia, in which every movement is sluggish, unless they be spurred on to effort. Neurasthenics are at times vivacious, but it is only a temporary condition, and after the stimulus is gone they fall into an even greater state of depression than before. This is seen in young women who live in the social whirl of our large cities. Their lives are made up of a constant series of entertainments from morning until night, ending at 1 or 2 o'clock in the morning with a supper of indigestible trash. Their nervous systems are under constant stimulation and excitement. He recalled a patient, a young lady, whose daily routine of life was spent as follows: before rising in the morning she was treated by a professional masseuse; after this, she went out to luncheon; then followed calls, teas, theatre, etc., and supper at 1 or 2 a. m., and then the effort to sleep.

This condition of affairs continued until he was summoned to attend her, for insomnia. He induced her to go to Florida for 2 or 3 weeks, where she passed her time quietly on a plantation. When she returned, she was better in every way, and had gained 15 lbs. He advised her to go away again at once, and, after a week's stay here, finding it absolutely necessary that she should comply with his instructions, she went to Switzerland. There, she was attended by a physician who got her to exercise by a somewhat unique method. He had her driven, with her companion, to a certain mountain; after a short walk returning to the place where she had left the cab, she found it gone, and had to walk back to town a distance of 5 miles. She eventually recovered, and is to-day in good health.

So far as the effect of over-study is concerned, he wished to emphasize what Dr. Johnston had said. He had more than once seen young girls fail physically on account of being forced to attain a certain standard of scholarship. The schools are often to blame for this, and parents as well. When the amount of study is noticeably affecting a pupil she should be taken from school at once.

Regarding treatment of neurasthenia, he heartily endorsed all that had been said. These patients should not be condemned as insane, although the line between the two affections is often hard to draw. They should be given a fair chance, and the treatment described by Dr. Foster. Hydrotherapy is most important. Diet should be of an easily digestible character, and should be abundant. Sometimes these patients do not eat enough, although they assert that they do. In some cases where they do eat a sufficient quantity, the food is of improper quality, and is not digested or properly assimilated, and neurasthenia,

usually with marked symptoms of faulty digestion, results.

Dr. MOTTER: While we may not be able, in all cases, to follow Dr. Foster through neurasthenia up to insanity, we must recognize, with him and with Dr. Richardson, the "common features," in the initial stages of these conditions, of unstable nerve equilibrium, of excessive irritability, of undue emotional excitement. If the pathology of these conditions, as outlined so clearly, be correct, it would seem that our duty begins before diagnosis, and should end in measures more effective than mere treatment.

Beard, in America, and Bouchut, in France, have described neurasthenia as we now understand it. Under the older terms spinal irritation or nervosism the affection is probably as old as Hippocrates (See Ellis, page 278). At the same time the comments of Hirt are well worth consideration: "The disease is a child of the modern mode of living, of the desire to become rich as soon as possible and we look for it in vain in the old textbooks Although it may in earlier times have occurred now and then, neurologists had neither opportunity nor occasion enough to study it intimately. This has only become possible quite recently, and it is certainly a fact of significance that neurasthenia has been "discovered" in that continent, the inhabitants of which have the reputation of working the quickest, of living at the highest pressure, and therefore of being—of course with exceptions—more nervous and aging sooner than those of the Old World, to wit, in America."

Herein, surely, we can find at least one explanation of that temperamental predisposition to these abnormal nerve phenomena, which Dr. Foster has mentioned. But he also referred to an acquired tendency, which may yet be accounted for. That the disturbances under consideration have a basis in a condition of unstable equilibrium is the testimony, not merely of clinical medicine, but of biology and sociology as well. Nor is this condition of unstable equilibrium peculiar to the nerve system alone; we have learned that it applies to the whole human economy, that the processes of metabolism and nutrition, the blood-vascular, glandular and muscular systems are alike involved.

Now there is, as we all well know, a stage in our development when this condition of unstable equilibrium is not only wholly physiologic, but it is even exaggerated, and, I fear, it is to our shame that in spite of our knowledge, we have ignored and do ignore this period.

I know of no one who so clearly, so forcibly, and withal so interestingly puts this whole question as does W Bevan Lewis, from whom I beg to quote a somewhat extended extract.

"Of all phases of human life physiology deals with none more instructive than that of its critical periods. During the first and second dentition necessitated by altered conditions of life; during puberty and adolescence when the procreative faculties are being unfolded; during the decay and obsolescence of these faculties at the menopause and grand climacteric; and lastly during the final retrogression of senility—the physiological changes are fraught with profound interest, and in no less degree do serious departures from normal functional activities prove suggestive to the pathological inquirer. The period of puberty, if we neglect those variations due to climatic and social influences, is usually fixed between the ages of thirteen and fifteen for females, and of fourteen and sixteen for males. It is emphasized by certain well-marked external signs * * *. The term 'sexual maturity' is liable to mislead; we must clearly understand by it, procreative maturity and nothing more, since it by no means refers to full sexual divergence, in which the whole framework of the body participates, and in which the central nervous system also undergoes a profound change. The period of adolescence, however, may be regarded as extending from puberty to the age of 21 in females and 25 in males; and is characterized by most profound changes, especially by the completed development of the osseous system (Power and Sedgwick)."

"Puberty involves changes of vast

moment to the subsequent stage of manhood. Anomalous conditions are but too frequently established at this epoch, which lay the foundation for future physical and mental disability. Growth is actively proceeding, and the osseous and muscular systems are adding largely to their bulk, so as to vastly increase the force and range of their activities; but with this active growth, differentiation and subordination of parts proceed until maturity is reached and adolescence issues in full sexual divergence. It is a well-recognized fact that full sexual divergence is not, as a rule, insured until the framework and its musculature are approaching maturity (Carpenter); and in fact, the extreme differentiation requisite for this divergence of sexual characters appears ultimately to demand a cessation of that exaggerated nutritive activity which prevails in the earlier periods of adolescence."

"The establishment of an equilibrium in the metabolism is but one illustration of the great law of 'antagonism between growth and development, which is ultimately connected with the law of reproduction.' (G. H. Lewes' Life of Goethe, p. 355). The epoch we are considering is ushered in by greatly augmented activity of the nutritive functions, and affords a parallel to the conditions existing in earliest infancy and childhood. * * * "

As Trousseau states, "Excessive expenditure of nutritive force occurs with especial frequency at the period of puberty; the lad, in usual parlance, is said to be 'out-growing his strength,' he may add five or six inches to his stature in a single year."

As Dr. Edward Smith also states it: "The period of puberty is associated with two classes of evils, viz.; excessive development of the cerebro-spinal axis, and defective growth of the organs of organic life."(Cyclical Changes, p. 286). Such greatly augmented metabolism taxes to the utmost the constitutional powers; the requirements of the very rapidly increasing mesodermal tissues are imperative and urgent; circulating albumen is rapidly extracted by the growing tissues; so that, unless a more generous diet by given whereby such loss may be replaced, serious impoverishment must ensue. Functional disturbances as a consequence occur, whilst mal-assimilation furthers still more the vicious progress, and lays the foundation for nutritional ailments, such as tubercle, to which this epoch is so prone.

"The excito-motor irritability of infancy with its jerky, spasmodic, ill-directed movements, wanting in object, wanting in power, coordination and skill, pass, in the growing youth, under the control of higher centers now evolving. Action is now directed to a definite purpose, and muscular activity becomes, in one form or another, the supreme pleasure of the organism; yet such activity is still chiefly tentative, imitative and wanting in indications of prescience and the accomplishment of elaborate or far-reaching results. Enjoyment appears to be the purport of this vigorous and active stage of life; restless movement seems to be necessary for the expenditure of superabundant energy; and mental acquisitiveness lays up its store of facts for future use and application. * * * With the advent of puberty and adolescence all this is changed; the rapid growth of the organism is now accompanied by rapid transformations of the nervous centers, and as the parts chiefly affected are the bony framework, blood-vascular tissues, and the musculature, so should we expect a greater or less tumult in the molecular transmutations occurring at the centric expansions of the motor system of nerves—hence the higher coordinating centers, the psychomotor area, must undergo important developmental changes. Correlatively, there dawns upon the mind the consciousness of fresh motorial capabilities, the overflowing nascent energies are directed into new channels of activity, rendering new tracts of cerebral tissue permeable, and fresh motor combinations arise. An undue estimate of the subjects' capacities usually exists; the imitativeness of youth declines before the self-assurance and

originating tendencies of the adolescent. Then there crowd in upon the sensorium the impressions aroused by the slowly-developing generative organs, and the vague indefinite notions of sexual relationships gradually take form in the definite divergence of mature age, life begins to assume a reality which it formerly wanted. The mental characteristics are peculiarly of a constructive kind; and the issue may be favorable or vicious, according to the education and training then received. In some the emotional element will be favored, and reverie indulged in to a vicious extent may paralyze more useful and rational activities. In others, the imaginative faculties may be chiefly stimulated; the love-sic lad will pour out his plaint in verse; while girls, especially, are prone to reverie and 'castle-building.' For the fostering of such vapid states in this class of subjects, the sensational novel of modern days appears especially designed. In the female we find the amiable virtures especially aroused, whilst in the male the dormant motor potentialities express themselves in the form of extravagant, half-developed, ill-digested plans, overweening self esteem, and an egoism at once obtrusive and objectionable."

Dr. KOBER: Dr. Motter's notes here end; he has given us a comprehensive view of the physiology of puberty, and his notes and references left with me, practically furnish the cue for the hygiene of this important period.

Dr. Foster has quoted Kowalensky's observation, that inanition, autointoxication, malassimilation, and "oxygen-hunger" enter into the pathology of neurasthenia. Let us briefly consider in how far the City Public School system paves the way for these conditions. In a former discussion in this Society, I have pointed out that there is a decided difference in the purity of the country and city air, especially in the amount of carbon-dioxide, organic matter, and germs, and this difference is still more marked between the open air and the air of habitations and school rooms. Every excess of the abnormal constituents of the atmosphere cannot fail to be without effect in the oxygenation and purification of the blood, and if continued, the health must suffer. Indeed Prof. Eliot of Harvard truthfully says: "It is absolutely impossible to preserve in health any family that resides uninterruptedly for two generations in a great city." Impure air means impure blood and is therefore an important factor in the production of anæmia, chlorosis, and all nutritive disturbances. Add to this, habitual constipation, and indigestion—the result of physical inactivity and improper food—and we have all the factors calculated to produce auto-intoxication, inanition, and mal-assimilation, and why should not the nervous system, composed of the most complex and delicate cells in the body, sustain the brunt of this perverted nutrition?

In addition we should remember, as already pointed out by Dr Motter, that during the period of puberty we are confronted with an excessive expenditure of nutritive force and it seems therefore most irrational, if not cruel, to overtax the brain and nervous system at this particular period of development.

Every mental effort means an increased flow of blood to the brain, and if we do not allow the brain to rest, and sufficient time for the restoration of the intracranial circulation, this temporary hyperæmia may become constant and give rise to pathologic changes in the brain cells.

The first symptoms of overtaxing the brain are mental fatigue, apathy, headache, followed by irritability, insomnia, or at least disturbed and unrefreshing sleep, inability to think clearly, impaired memory with later symptoms of depression or exaltation. I am not disposed to attribute every break-down to the school, when the real cause may be a body weakened by improper food, bad habits, late hours, or overtaxing the brain by extra studies in music and painting. Indeed the whole tendency of modern civilization is toward the development of nervous temperaments. The very excellencies of our progress, its accelerated speed, have quickened the

pulse, stimulated the nerves and intellect, and fired the ambition of men until they overleap the limits of their natural powers.

Need we wonder then when we see evidences of an ever-increasing inherited predisposition to abnormal nerve phenomena, hastened in their development by premature school life, and the premature use of tobacco, coffee, and tea? But the points I wish to emphasize are, that all this is the result of ignorance, which should be combated wherever we can, and, second, that the environments of the city school, that is, the impure air, the physical inactivity, the high-pressure system of education, and the indiscriminate taxation of the mind, are especially calculated at a vulnerable period of life to lay the foundation for neurasthenia, the manifestations of which in the light of its etiology and pathology, may be aptly termed the prayers of the nerves for better nutrition.

In the interest of future generations, and in spite of Bain's protest that it is an inadvertence to couple the art of health with education, it is our duty as physicians to repeat in no uncertain terms the note of warning sounded by Jean Jacques Rousseau in the last century against premature school life, and I trust we can all agree with Johann Peter Frank, the father of school hygiene, when he protested over 100 years ago against the premature taxing of mind and body, in German verse, as follows:

"Spare their fibres yet—spare their mental powers
Waste not in Childhood the future man's prowess"

Dr. PARSONS: I wish to ask Dr. Foster whether he would class somnambulism, hysteria, hypnotism, and alterations of personality under the one head of neurasthenia, and attribute the abnormality therein involved entirely to physical causation? On entering the field of insanity proper, if he would attribute recurring mania, with its seemingly almost absolutely periodic lucid intervals, to the same cause? Also, how he would account, from the standpoint of physical causation, for the marked physical improvement noticeable in many cases of chronic insanity, and the fact that when such physical improvement occurs, it is usually regarded by experts as being one of the most certain symptoms indicating incurable mental disease. If it be, as has been said, that the mind is only the rudder, the steering apparatus of the Ego, then should we not expect that any imperfection in that same steering apparatus, any inequality in the physical machinery, any defect in the physical instrument, must of necessity cause disturbance in the transmission of power. But I maintain that it does not of necessity indicate the abolition of power.

I think that Dr. Adams does not understand that while the pupils in the High Schools are limited to four recitations in a day, yet the day is filled with recitations and various school exercises to the absolute exclusion of study hours during the school session. The complaint is general that all lessons have to be prepared at home, in the early morning, short afternoon, and long evening hours, and that school life is a perfect routine without opportunity for either rest or recreation.

Dr. BISHOP said that Dr. Foster's paper and the discussion upon it had afforded him great pleasure. The subject was one in which he had been interested for several years, and upon which he had written, and he believed that the gentlemen who preceded him had struck the keynote when they spoke of faulty metabolism as the chief cause of this condition. The neurasthenic, according to his experience, is not as a rule a person in the lower walks of life; they usually belong to the better class, and are brain workers. Contrary to the experience of several who had spoken, neurasthenics are not, according to his observation, necessarily weak or debilitated individuals, and this he believed to have been the experience of Beard

and some other authorities The neurasthenic may be stout and strong, but in consequence of excessive mental work and worry, there is a strain upon the nervous system, producing a degenerate condition of the cells of the nerve centers on account of a lack of perfect metabolism, as a result of sedentary habits. The muscular system is the largest and most extensive in the body, and the absence of perfect combustion in the muscles diminishes the metabolism in the body. The products of combustion in the muscles are taken to the liver and there converted into urea, which is excreted largely by the kidneys. In late years he has made observations upon the subject of metabolism in neurasthenia by carefully examining the urine in each case; 1500 cc was taken as the physiological basis for quantity in 24 hours, and 60 gms. as the total of solids; 33 gms. of the solids should be urea, which is a diamide of ammonia. He had found, as a rule, that the amount of urea was markedly diminished, and, step by step, as treatment increased metabolism, and thereby increased the urea excreted, the patient's condition improved.

From cases seen he believes that metabolism in many neurasthenics can be restored by proper treatment, and just in proportion as it is restored, the patient's condition improves. The rest treatment should not be used indiscriminately. Many of the cases require rest for the nervous system, and exercise for the muscles. Very often in exercising the muscles, we rest the nerves by inducing a condition of body that invites restful sleep. He felt sure that had he put some of his patients to bed, and overfed them, they would have died.

Neurasthenia is not a condition devoid of possible fatal consequences. It is dangerous to life as well as to the mind, and is often fatal.

He cited cases in point who died with uræmic symptoms. The cases were all neurasthenic, and were diagnosed as neurasthenia by a number of physicians. They emphasize the fact that neurasthenic symptoms may be produced by any poison affecting powerfully the nerve centers. Only one of the above cases had albumen even in minute quantity.

Dr. WOODWARD said that he had been waiting to hear just what neurasthenia and insanity are. Until we know what these terms mean, any attempt to associate the conditions which they represent upon a pathological basis, is dangerous. He believed it unwise to generalize to too great an extent, or to propagate the idea that neurasthenia and insanity are necessarily and essentially related.

Dr Richardson had said that one important difference between the two conditions was that in neurasthenia the special senses are involved to a greater degree than the psychic functions. While this is true, it is a question whether the difference is not apparent only. In other words cases characterized by disturbance of the psychic functions are classed as belonging to insanity, and those in which the symptoms refer chiefly to the special senses are classed as neurasthenia without reference to the underlying cause.

It should be remembered that in neurasthenia the seat of the disease is not necessarily in the part in which the most prominent symptoms appear. Dr. Johnston had reported two cases in illustration of this.

Referring to what Dr. Bishop had said, he called attention to the fact that the amount of urea excreted in the urine is a more or less accurate index of the extent of metabolism going on in the body. While the presence of the equivalents of such urea in the system, and its absence from the urine, may cause the symptoms of disease, yet the very retention of such compounds may, and frequently does, depend upon pathological processes. Before we are in a position to regard the amount of urea excreted as bearing a causative relation to neurasthenia we must learn whether the diminution of the substance is not merely the result of causes associated with the origin of that disease. We find neurasthenia as a rule in persons who have taxed their nervous systems at the expense of their muscles

– persons who do too much mental work and take too little bodily exercise ; it is but natural therefore, that we should find a diminution in the amount of urea which is excreted.

Dr. BISHOP said that he had made no positive claim. In his investigations he had almost invariably found the daily quantity of urea diminished in neurasthenics. Urea is the product of the metabolism of nitrogenous substances, it is a poison, and a normal quantity must be excreted each 24 hours If such is not the case, metabolism has been retarded, or the kidneys may be involved, and in either case evil consequences result.

Dr. J. TABER JOHNSON thought that those present might have gained the erroneous impression that insanity is a natural sequence of neurasthenia. Such, however, he did not think was the case. Many of us who have observed these cases of neurasthenia, especially in women, have noted that the disease often began and ended with no symptom of insanity. They recovered under proper treatment, and the removal of the cause of the disorder. Undue fear might arise in these patients if they thought for an instant that they might become insane, and their condition would thereby be made a thousand times worse.

Dr. Parson's suggestions were the keynote to what he wished to say. The cause of the disorder must be removed in every case or cure is impossible. Dr. Johnston had criticized the gynaecologists for operating upon neurasthenics instead of treating them by the Mitchell rest cure. While this may be true in some rare cases, in those patients in whom no local lesion is found, it is evident that operation can do no good, and it is almost criminal to operate, knowing this to be the case. On the other hand we see these cases with lacerated cervices, and other local abnormalities which are at the bottom of the neurasthenic condition, treated by the general practitioner by rest, feeding, electricity, etc., and the patients get better temporarily, but the trouble soons returns—she was not cured. Some one else discovers the true cause of the trouble in the lacerated cervix, believes that the nervous symptoms are reflex only, sews up the laceration, and the patient recovers permanently—the cause has been removed

In the same way, patients have been treated for malaria, hysteria, and neurasthenia, when a chronic ovaritis with anhesions is the true cause of the trouble. Some gynaecologist discovers this, removes the descased ovaries, and the patient recovers. Farther still, while he meant no criticism of the management of the insane, patients had been brought to him from asylums as incurably insane. Upon making an examination, the ovaries had, perhaps, been found inflamed, folds of peritoneum matted together, etc. Removal of this condition by operation resulted in recovery from the insanity in these cases. He therefore arose to defend the gynaecologists from the charge of unwise and hasty operations. He believed that they were generally conscientious men, and he knows that many a woman blesses them for relief from a "neurasthenia," the symptoms of which were purely reflex.

We have also cases of neurasthenia which have been helped by the mental effect produced by operation. He recalled a patient, a man suffering from sexual neurasthenia. He was greatly depressed, almost to the point of insanity by the atrophy of one testicle. An operation was finally suggested and he was given the impression that it would cure him at once. The atrophied testicle was removed and a celluloid ball inserted in its place. The natural rotundity of the parts was thus restored, and the man recovered rapidly.

Dr. W. W. JOHNSTON said that he wished to correct what was evidently a misapprehension upon Dr. Johnson's part. He had not meant to criticize the gynaecologists. What he said was that he thought it strange, with our present knowledge, that gynaecologists do not more often associate the idea of neurasthenia with diseases of the female generative organs, and that the removal of the offending organs or other operation

in these cases often constitutes all of the treatment. Rest, feeding, and other treatment must be continued after such operation to restore these patients to perfect health. He has now under treatment a young woman, a neurasthenic, who two years ago, had both ovaries removed. She soon returned to her work, but never fully recoved, since remaining a neurasthenic. Operation in these cases is often proper and necessary, but the subsequent treatment is not carried out, because it is thought that the removal of diseased organs is all that is necessary to effect a cure. The same statement may apply to the views of certain ophthalmologists. The treatment of the eyes only, and the correction of ocular defects should not constitute the whole treatment of such cases, and does not cure them In other words, the eye conditions are a symptom, and not a cause of neurasthenia.

Dr. A. B. RICHARDSON said that he felt obliged to say a few words in defense of the alienists who had to bear the brunt of so many failures in the treatment of these cases. The question of local treatment is by no means a new subject among them. Experiments have been made in several asylums to ascertain the exact value of this active local treatment, and some of his friends had thereby somewhat increased the mortality of the institutions under their care. The results in some cases however, were good. As a surgeon in a neighboring city had said, the curative effect of an operation per se often does good, especially among the insane. But it has been found that the longer such operations for mental effect were kept up, the less the number of favorable results became. The increased risk to the individual makes one hesitate to perform operations of this kind when they have been found to fail in so many instances.

As to what Dr. Woodward had said, relative to the causation of neurasthenia and insanity, he did not wish to be understood to say that the cause of the former may not be central. It is as much so in some cases, as in insanity. In neurasthenia, however, the lower differentiated tissues are usually at fault, whereas in insanity the trouble is more often in those tissues which are more highly differentiated. We must make some such distinction as this, as the pathological process in the two affections evidently does not lie in the same cells, because many cases of neurasthenia although of long standing, do not become insane, while a relative few do. The similarity between the two diseases should make us cautious to avoid a mistaken diagnosis. Some cases of neurasthenia are undoubtedly unrecognized cases of insanity, the special sense disturbance, and reflex nervous symptoms being a complicating condition.

Dr. FOSTER, in closing the discussion, said he had evidently not made clear the relation claimed to exist between neurasthenia and insanity. The object of his paper had been to ignore for the occasion established classification, and consider the common features of certain disorders attended by nervous weakness. Notwithstanding the seeming widest divergence, there is an essential unity, indicated by a common causation, common symptoms and common pathological changes: and so far as the conditions are the same, a similar method of treatment is called for in neurasthenia and insanity. He had found no sharp line of demarcation between the two diseases, they pass into each other by almost insensible gradations, some being on the border line between the two. In support of a common pathological basis for them we have the presumptive evidence furnished by the same chief factor in both—overstrain; also, the early stages of both are characterized by the same train of nervous symptoms. This view is also in harmony with and draws support from the fact that, although the nervous system is made up of many different kinds of cells and tissues, yet every kind of depressing or toxic influence affects especially its own kind of cells as shown in this paper, upon the authority of Sugar's experiments, so that we may have cell degeneration arising from a variety of causes, vary-

ing in situation, and therefore in its effects. We may have cases of neurasthenia in which the symptoms are principally related to the spinal cord: and so, any of the various systems of nerve cells may be affected with a disease peculiar to that system, with corresponding variation in sensory, motor, and psychical phenomena.

Often the cerebral symptoms of neurasthenia are not prominent, some cases beginning and ending as neurasthenia without ever becoming insane. On the other hand—and this is a point to be emphasized—we have neurasthenia of the cerebral type, many of the patients suffering from this disorder being on the borderland between the two diseases, and may be sent to the asylum as insane by one physician, and to a sanitarium as not insane by another, and both men be perfectly honest, the decision being arbitrarily determined by circumstances and the personal equation.

As to what D. Woodward had said, that the term insanity is vague is true to a certain extent, but less so than formerly. We are getting nearer to the physical relations of these diseases, and as a matter of fact, as stated in the paper read, chromatolysis has been demonstrated in various forms of acute insanity, as well as in secondary dementia.

With regard to the inquiries of Dr. Parsons, the subject is one upon which it is much easier to ask questions than to answer them. Hysteria, hypnotic susceptibility, somnambulism, etc., are commonly regarded as greatly influenced by heredity. They undoubtedly have a physical basis which may be found, in part, in an imperfect development of the particular system of cortical cells involved, attended by unstable equilibrium, or a defective nutritional vigor.

With regard to the marked physical improvement which sometimes occurs in chronic insanity, without mental improvement, and which is usually regarded as an indication that the disorder is incurable, this is readily explained by the nature and results of chromatolysis when there is not an early arrest and repair. As the process continues, degeneration, and disintegration go on in the cells first involved, while new cells take on the morbid action. When the active disease comes to an end, there must, in chronic cases, be many cells which have been destroyed and permanently lost since such cells are not reproduced. The loss of mental function remaining after the general physical condition has been restored, is in direct proportion to the destructive progress of the disease, the improved condition of the patient precluding any farther hope, since all repair that is possible may be assumed to have already taken place.

MEETING OF DECEMBER 6th, 1899.

Dr. BUSEY, President, in the Chair.

The Chair appointed Dr. Motter as Supervisor of the Sanitary Milk Laboratory in place of Dr. S. S. Adams, resigned.

Dr. W. W. Johnston presented a case of *Addison's Disease*, under treatment, and improved by Suprarenal Extract.

EYE AND EAR WORK IN THE LONDON HOSPITALS

BY E. OLIVER BELT, M. D.

To an Ophthalmologist and Otologist the most interesting places in London from a professional standpoint are the Royal London Ophthalmic Hospital better known as Moorfields Eye Hospital, the Royal Westminster Ophthalmic Hostal, the Golden Square Throat Hospital, founded by Sir Morell Mackenzie and The London Central Hospital for Ear, Nose and Throat.

I first visited old Moorfields and I must confess that I was somewhat disappointed not to find the improvements in aseptic methods expected since my visit there eleven years ago. Even the old, red blanket for the operating table appeared

to be the one in use during my former visit and nearly everything else in the operating room presented the same appearance, however, this may have been due to the fact that they were then preparing to move into their new Hospital and were putting up with old appliances temporarily before moving. But a visitor will always see much at Moorfields to interest him. More than 100,000 visits were made to the Hospital last year by Eye patients alone, substantiating its claims to being the largest Eye Hospital in the world. You may form a better idea of what can be seen there in a few weeks when I tell you there is an average of more than 300 patients a day, about 1,000 operations for cataract were performed there last year, about 400 iridectomies were made, more than 200 operations were performed for strabismus and more than 200 eyes were removed. With such a large outpatient department many interesting and some exceedingly rare diseases are seen. The day of my first visit Mr. Morton was one of the Surgeons for the day and as he is one of the best, I will describe his method of Cataract extraction.

A 10 per cent. cocaine sol. is instilled a few times immediately preceding the operation, the eye is then irrigated with Boracic Acid solution, the lids are held apart with a speculum, the corneal section is made with a Græfe knife, the capsule being divided as he makes the section, and a long conjunctival flap is made to secure better apposition of the corneal wound, Cocaine is again instilled before making the iridectomy and a painless operation is thus secured, the iridectomy is made with the De Wecker scissors, the lens is then expressed with a hard rubber lens scoop, or a Daviel spoon, the speculum is removed and the remaining cortical substance teased out by manipulation of the lids, Atropia Ointment is then used and both eyes are bandaged for three days after which only the eye operated upon is kept closed for ten days and the patient discharged the fourteenth day.

The next operation that especially interested me was by Mr. Gunn, it was removal of the lens for high myopia. The patient, a female of about twenty-five years had Myopia of 20 D. Mr. Gunn had needled the lens ten days previously. After irrigation with Boracic Acid solution, Cocaine was instilled the cornea was opened with a keratome and the soft cortical substance was removed with a Daviel spoon. I also saw a number of these cases operated upon in this manner by Mr. Hartridge at the Royal Westminister Ophthalmic Hospital. At Moorefields during the past year, about seventy-five cases were operated upon. In more than half a simple needling was done as in soft cataract, in the others after needling the soft cortical substance was evacuated by curette as heretofore described. The operation is not a difficult one and the results in more than two thousand cases which have been reported have been such as to establish the operation as quite justifiable in Myopia of 16 Dioptres and above, in which the near-sightedness is geuerally sufficient to materially interfere with the vocation of the patient. The chief risks in the operation seem to be infection, which is very rare with careful surgeons, and detachment of the retina which has been reported by several operators. As detachment occurs, however, in about 20 per cent. of these cases when not operated upon it is questionable whether the operation is a factor in its cause. In Myopia of 20 D. the extraction of the

lens about neutralizes the nearsightedness. Deep corneal ulcers are treated quite heroically but successfully by Galvano-cautery or application of pure Carbolic Acid. The latter method is as follows; the eye is irrigated with bichloride solution 1-5000. Ten per cent. Cocaine is instilled and the limits of the ulceration are defined by the use of Fluorescin, which as is well known colors the affected surface green. the ulcer is scraped with a corneal spud or curette, dried with blotting paper and a drop of Carbolic Acid applied, the eye is again irrigated with bichloride solution and then bandaged. The after treatment being instillation of atropia or eserine.

In many cases of keratitis or corneal ulceration heat is applied by means of the Japanese muff-warmer or hot-box as was recommended by Dr. Chisolm some years ago.

Iridectomy seems to be practiced as generally for chronic Glaucoma as for the acute form, the Graefe knife is used for making the corneal section. A radical incision is then made in the iris and it is torn from its attachment the full length of the corneal wound, then cut off. In this way better drainage of the eye is thought to be obtained.

I saw quite a number of cases of removal of steel from the vitreous with a magnet, generally through the wound, but in one case by Mr. Collins at Moorfields the wound had healed, the steel was located by the Ophthalmoscope, the sclerotic was opened at the spot indicated the magnet introduced and the steel was successfully removed.

I saw one case of sympathetic Ophthalmia which had been arrested by the hypodermic injection of Pilocarpin. The Mules' operation, or its modification, (insertion of a glass globe in Tenon's capsule) is practised to some extent, perhaps in 10 per cent. of the cases in which the eye has to be removed. Refraction work does not receive the careful attention there that it does in our Hospitals. Very little attention being paid to slight degrees of astigmatism. The Ophthalmometer is rarely used, but retinoscopy is practiced a great deal. Little attention is paid to muscular weakness and partial tenotomies. At Moorfield's Ophthalmoscopy is a fine art, and with the exception of the few criticisms above made there is probably no place where Ophthalmology is better taught than there.

In regard to ear, nose and throat work an American is first impressed with the absence of the compressed air apparatus in these special Hospitals. What little spraying you see is done with the hand atomizer, the main treatment being made by cotton applications. At the London Central Hospital for Nose, Ear and Throat one can see an immense amount of operative work, for example one afternoon I saw Dr. Dundas Grant remove enlarged tonsils in six cases, adenoids in six, enlarged turbinates in three, and a spur of the septum in one. All in forty-eight minutes under Nitrous Oxic gas except one case under Chloroform, a babe fourteen months old, with enlarged tonsils and adenoids.

He uses Doyen's mouth-gag, and insufflates the nostril with Europhen after removal of the turbinates. In chronic cases of suppurative Otitis Media with involvement of the mastoid, a very complete and thorough operation is usually performed,,the mastoid antrum and auditory meatus being thrown into one, the posterior wound in some cases is then closed and drainage secured through the external auditory meatus.

At the Golden Square Hospital suprarenal extract is being used very successfully to prevent hemorrhage in operations on the nose. Antitoxin is used for diphtheria in nearly all stages of the disease.

A SERIES OF CASES OF SUPPURATIVE DISEASE OF THE TEMPORAL BONE.

By Swan M. Burnett, M. D., Ph. D.

(Abstract.)

Dr. Burnett reported on a series of cases of suppurative diseases of the temporal bone, most of which had fallen under his care during the last 9 months. They ranged in age from 6 months to 72 years, and in severity from the mildest to that ending in death.

Case 1. Acute mastoiditis following grippe in a white woman of 34 years; opening of the mastoid cavity; exposure of the dura mater; cure.

Case 2. Bezold's abscess in which the neck from the sterno cleido-mastoideus to the trapzius and from the mastoid to near the clavicle was infiltrated with pus which came from an opening in the tip of the mastoid, of a white child of 6 years. There was no previous history of ear trouble. Abscess evacuated and the mastoid cleaned of diseased bone; recovery.

Case 3. Suppuration of the mastoid in a child of 6 months, following a discharge from the ear. Mastoid cavity opened and cleaned out; recovery.

Case 4. Suppuration of the mastoid in white woman of 64 years, following grippe. No history of discharge from the ears. Operation of opening the mastoid 5 months after the onset of the disease; exposure of the lateral sinus during the operation; recovery.

Case 5. Mastoiditis following grippe in a white woman of 72 years. Evacuation of the mastoid several months after the beginning of the disease—exposure of the descending branch of the lateral sinus; recovery.

Case 6. Extensive destruction, with sequestrations of both temporal bones in a negro girl of 4 years. Removal of all the mastoid and the posterior wall of the external auditory canals; recovery.

Case 7. Long continued and offensive discharge from the left ear of a negro boy of two years. Death from diffuse meningitis. Three tumors found in the left side of the brain. Extensive necrosis of the temporal bone, not involving the mastoid. Extradural abscess. One of the tumors was found in the cerebellum, another in the middle cerebral lobes just above the third ventricle, the other just above the corpus callosum. These tumors were round, and all three about one inch in diameter. They were found, under the microscope, to be tubercular.

Case 8. Extensive necrosis of both temporal bones with many sequestra, one of which apparently contained the semicircular canals, in a negro child. Three operations for relief in the course of three years. Dura mater exposed. Final cure.

Case 9. Meningitis in a negro child of 4 years with no symptoms of aural disease during life. Extensive necrosis of the temporal bone and an extra dural abscess found after death.

Case 10. Mastoiditis in a negro child of 15 months following a discharge from the ear; mastoids opened and cleaned out. Incus discharged through the opening in the mastoids; cured.

On the basis of these cases, and his experience in Washington with a clinic composed largely of the colored race, the essayist is convinced that suppura-

tion of the mastoid is very rare in the adult negro. He has never seen a case of mastoiditis in the negro above 10 years of age. On the other hand, it is very common in negro children. He also raised the question as to whether there may not be a primary inflammation of the mastoid, not due to disease of the drum cavity. He quoted Koenor as supporting that view.

DISCUSSION.

Dr. RICHEY said he had never seen an aural or mastoid abscess in the negro. He had never seen a mastoid abscess in a child which he could not relieve by a simple Wilde's incision. The reason for this is that the bone in children is soft. There is also in reality, very little mastoid process. Where it has been found necessary to do a second operation, the nidus of suppuration was not reached in the first instance. Once reached, the affection subsides, usually within 24 hours.

He would like to have heard the question discussed as to the propriety of the use of the Politzer method of inflation, and the use of peroxide of hydrogen, in the less chronic forms of middle ear disease. He believed both to be harmful in such cases, and that they were often the direct cause of the extension of the trouble. He realized that some would disagree with him in this, but these two, and the use of the probe, were responsible for many mastoid abscesses.

Dr. C. W. RICHARDSON said that he had seen no cases of mastoid abscess in negroes, and he had heard of none in his work. Second, as to the occurrence of mastoid disease in cases in which there has been no preexisting inflammation of the middle ear, he had seen one case in which there was no evidence of such preexisting inflammation, and the physician who sent him the patient, Dr. Foster, vouched for the correctness of the history. The inflammation of the mastoid was well marked, and the usual symptoms were present, except in one particular, there was no tenderness on pressure over the abscess. Upon opening the mastoid, a small quantity of pus was found, and the greater part of the process was filled with granulation tissue. The cavity was cleaned out, and the patient recovered.

He had had another case which was interesting in connection with this subject, and in which there was a preexisting abscess of the middle ear. It illustrated how the patient might come to overlook the middle ear condition, as the mastoid inflammation developed: as the accompanying symptoms become more intense, those of the preexisting middle ear inflammation are forgotten. The patient had had one attack of suppuration of the middle ear. This ceased, and the opening in the membrane closed. Ten days afterward, mastoid symptoms appeared. At the operation, the cell structure was found to be almost completely destroyed. Hence, cessation of suppuration in these cases may be apparent rather than real. He did not believe in idiopathic abscess of the ear, all such conditions have actual causal conditions.

He had seen the operation for mastoid abscess performed upon 3 children under 3 years of age, and he was sure that Wilde's incision would have been valueless in all 3. In these 3 cases, the incision had to be carried deeper than the cortex, and pus was found in the mastoid cells, and much of the bone had to be removed.

Dr. RICHEY wished to modify what he had said. It was his custom to carry Wilde's incision not only through the skin and periosteum, but from one-eighth to one-fourth of an inch into the cellular structure of the bone itself. He had thus performed the operation upon from 30 to 40 children ranging in age from 1 to 3 years, and every one made a perfect recovery.

Dr. RICHARDSON said that Dr. Richey according to his own statement, did not then do a Wilde's incision, as this went through the periosteum only—not into the substance of the bone.

Dr. JAMES STUART said that 2 or 3 years ago, he had seen a well-marked case of mastoid abscess in a negro man

at the Lutheran Infirmary. The possibility of the case being a periostitis caused a simple Wilde's incision to be made, pus being evacuated; but this failed to relieve the symptoms and the patient was sent the next day to the Freedman's Hospital for further treatment, where he died.

Fluorescin had been in constant use for 3 or 4 years at the Lutheran Infirmary, and it was his opinion that it was used quite extensively in other parts of the United States.

His treatment of bad ulcers of the cornea was, with the help of cocaine, to curette the ulcer, and touch it with pure formalin, so applied on a probe as to carefully localize it to the diseased spot on the cornea; then dropping in some atropine or eserine, as the case required, and to use iodoform ointment 10 per cent, followed by bandaging of the eye.

Dr. MOTTER said that in discussing Dr. Butler's paper upon the modified Mule's operation, a few weeks ago, Dr. Belt had called attention to the danger of fracture of the inserted glass globe, as an objection to the general adoption of the method. He did not believe this danger to be so great as one might imagine. Several weeks ago, he had seen in Philadelphia, 3 or 4 patients upon whom the operation had been performed by Dr. Fox, and who spoke of a patient who had recovered, and been kicked in the face by a horse; the glass globe was not fractured.

Dr. S. B. MUNCASTER said that within the last few months, he had visited the principal hospitals in New York, London, and Paris, and of all of them, the new Moorfields had the most perfect and aseptic operating room.

Dr. COMPTON said that he had been much interested in that portion of the paper which related to the use of nitrous oxide in place of cocaine in minor operations upon the nose and throat. He had often so used it in tonsillotomy, removal of spurs, curettings, etc. It possessed many advantages over cocaine, and did not receive one-half the consideration that it should. The point as to the propriety of using hydrogen peroxide in mastoid disease was one well worth considering. The result of its use in the meatus in suppurative cases is not infrequently, to drive the pus inward, and thus produce inflammation of the mastoid cells, or other parts. The use of the Politzer bag has also not infrequently caused the same result.

Dr. FRANCIS P. MORGAN said that the case mentioned by Dr. Belt in which the course of ophthalmia was favorably influenced by hypodermatic injections of pilocarpin, was especially interesting in view of the fact that the drug is not often used in this country in eye diseases although it is well-known that it has a marked and constant action upon the eye, causing paralysis of accommodation, contraction of the pupil, and lessened intraocular tension, which puts the eye as nearly at rest as possible. In giving rest to the different parts of the eyeball, when in a condition of inflammation, we follow the first principles applied in the treatment of other inflamed parts of the body. By contracting the arterioles of the globe, the amount of blood thrown to the inflamed area is lessened, and the most favorable condition for the reduction of the inflammation is established. It also favors drainage from the interior of the eyeball, as is seen in glaucoma, in which it lessens intraocular pressure, probably by favoring the escape from the globe.

That pilocarpin is not more used in diseases of the eye is due to the fact that its use in some cases has been followed by untoward effects, these being mainly due to its depressing action upon the heart.

MEERING OF DECRMBER 13th, 1896.

Dr. BUSEY, President, in the Chair.

The treasurer read his report for November, 1899 as follows:

Receipts, $510.00.

Disbursed, $59,17.

The corresponding secretary announced that at the request of the Academy of Sciences, at their next meeting,

December 20th, President Busey would deliver his annual address under the auspices of the Academy. Subject: "The Code of American Medical Ethics."

Upon motion of Dr. Kober, the corresponding secretary was instructed to extend invitations also to the students of the regular medical schools of the city.

The committee appointed to take suitible action upon the death of Dr. John H. McBlair submitted the following resolutions:

WHEREAS, the Medical Society of the District of Columbia, has received with great sorrow the intelligence of the death of Dr. John H. McBlair, who for many years has been a worthy member of the Society, therefore be it,

Resolved: That in the death of Dr. McBlair the Medical Society, has sustained the loss of a member whose professional attainments were well known, and the community, a valued citizen.

Resolved: That the sincere condolence of the Society is hereby tendered the family of Dr. McBlair in the bereavement, and that a copy of these resolutions of respect to his memory be forwarded to them.

C. W. FRANZONI, M. D.
A. BEHREND, M. D.
EDWIN L. MORGAN, M. D.
Committee.

Dr. Smith presented the following resolutions which were adopted upon motion of Dr. Reyburn.

MEDICAL SOCIETY OF THE DISTRICT,
December 6th, 1899.

Resolutions of congratulation, extended to Dr. John Hodges Mundell, upon the the occasion of his half century identification with the medical profession.

WHEREAS: Dr. John Hodges Mundell, for many years a member of good standing in this Society, having attained the fiftieth year of his connection with the medical profession, during which period his upright, honorable conduct has won for him the esteem, respect, and confidence of his associates, and the Medical Society desiring to manifest its appreciation of his many eminent qualifications, adopts the follswing resolutions:

Resolved: That the Medical Society extends to Dr. Mundell its warmest congratulations on the occasion of his half-century identification with the medical profession, during which time he has been deservedly honored by his professional brethren because of his high character as a gentlemen and physician. He has been faithful to his obligations, has satisfactorily performed the duties imposed upon him by the Society, has earned and retained the good will and confidence of his associates, and has lived a life worthy of emulation and commendation. The Society takes pleasure in calling the attention of the profession to the blameless life of our honored and honorable associate, and profers him the kindest and heartiest wishes for a continuance for many years of his long and useful life, and the hope that health and happiness may be his to the end.

Resolved: That these resolutions be placed upon the records of the Society, and a copy forwarded to Dr. Mundell.

The Chair appointed as delegates to the Convention for the Revision of the Pharmacopoeia, Drs. T. C. Smith, Motter, and Lochboehler.

The Chairman of the Committee on Legislation stated that while he could not speak authoratatively or officially upon the subject, he had reason to believe that a plan for the mechanical filtration of the Potomac water used in the city would be recommended for the action of Congress in the near future. The report of the Committee on Legislation was read as follows:

WASHINGTON, D. C. December 13, 1899.

The Committee on Legislation begs leave to invite the attention of the Soci-

ety to the action which the Committee has taken relative to the proposed code of law for this District, which is fully shown by the accompanying copy of a letter which has been addressed to the Chairman of the Bar Association, which has the code in charge. The matter will be kept under observation and such action taken as may be indicated from time to time, of which the Society will be kept fully informed.

Respectfully,
SAMUEL C. BUSEY, M. D.
Chairman, Committee on Legislation.

WASHINGTON, D. C., Dec. 11, 1899.

A. S. WORTHINGTON, Esq.,
Chairman, Committee of Bar Association, etc.

SIR :—The Committee on Legislation of the Medical Society of the District of Columbia desires to call the attention of those interested in the enactment of the recently proposed code of law for this District—S. Bill 5530, 55th Congress—to the unsatisfactory manner in which it treats of public health and allied subjects, and to express its apprehension lest the more or less indefinite terms used in the repeal section may unintentionally effect the abrogation of the charter of the Medical Society of the District of Columbia and possibly the repeal of the Act to provide for the incorporation and regulation of medical and dental colleges, approved May 4, 1896. This Committee has to request, therefore : 1, that all provisions in the proposed code which relate specifically to public health and allied matters be omitted, as other provisions in relation to municipal affairs have been, so as not to add to the confusion that already exists, nor to interfere with the future enactment of a code of sanitary law should steps be taken toward that end : and 2, that all laws relating to public health and allied matters, and the Act to revise, with amendments, "An Act to incorporate the Medical Society of the District of Columbia" approved July 7, 1838, be named in the proposed code by their titles for the purpose of excepting them from the operation of the repeal section. This request relative to the charter of the Medical Society of the District of Columbia is made without prejudice to any similar request that may be made by other medical societies already chartered by special acts of Congress.

A list of the acts to be specified by title as above requested will be furnished on application, should the foregoing petition be favorably considered.

For a more or less detailed statement of the objections of this Committee to the proposed code in its present shape attention is invited to the attached specifications Respectfully,

SAMUEL C. BUSEY, M. D.
Chairman, Committee on Legislation.

Specifications.

1. The proposed code of law is unsatisfactory inasmuch as it includes a limited number of subjects only and as some of these are dealt with in an incomplete manner. Among the subjects omitted or neglected are the general powers and duties of the Health Department and the laws relating to public health.

2. Certain laws relating to public health, which are now in force, are included in the proposed code, while others, identical in character and in principle in no way distinguished from them, are excluded : e. g. : the provisions of an Act for the regulation of cemeteries and the disposal of dead bodies, approved January 25, 1898, are included—section 660 et seq.—while those of an Act to regulate the disposal of certain refuse, etc., approved on the same day, do not appear.

3 The arrangement of the proposed code, so far as relates to sanitary matters, is defective : e. g. : the law relating to the reporting of deaths and the care of dead bodies appears in chapter 18, entitled "Corporations"—section 665 et seq.—while the only other laws relating to public health which are in-

cluded appear in chapter 19, entitled "Crimes and Punishments"—section 858 et seq.

4. Chapter 19. subchapter 7, entitled "Offenses against Health", contains provisions more or less repugnant to each other: e. g.: section 869 fixes the fat content of milk at 3.5 per cent., whereas section 884 fixes it at 3 per cent. Section 891 provides a general penalty for the entire subchapter, while various other sections provide independent penalties more or less inconsistent with it.

5. Provisions which experience has demonstrated interfere with the efficiency of certain laws are retained, while others which are needful are omitted: e. g.: section 890 requires samples of milk to be taken and analyzed in the presence of two witnesses, which serves no good purpose, and section 893 provides for procedure by indictment, instead of by information, while the provisions of an Act to punish the impersonation of inspectors of the health and other departments of the District of Columbia, approved March 2, 1897: those of an Act to prevent the spread of scarlet fever and diphtheria, approved December 20, 1890: and those of an Act to prevent the spread of contagious diseases, approved March 3, 1897, are not included in the code and are apparently repealed.

6. The transfer of the appointment of the Coroner from the Commissioners of the District of Columbia to the President of the United States—section 186—is apparently not warranted by anything in the past administration of the Coroner's office. The specification of the cases which shall come under his care—section 188—is indefinite: his control over dead bodies pending investigation is not defined: and the ancient and useless practice of swearing in the jury super visum corporis is allowed to continue.

7. The repeal provisions—section 1662—are vague. Moreover, so far as appears from this section, and from the body of the code, it is proposed to repeal the provisions of an Act to punish the impersonation of inspectors of the health and other departments of the District of Columbia, an Act to prevent the spread of scarlet fever and diphtheria, and an Act to prevent the spread of contagious diseases, heretofore referred to, all of which are vital to the proper performance of the work of the Health Department.

THE CODE OF AMERICAN MEDICAL ETHICS.

Annual Address of the President, Samuel C. Busey, M. D., delivered before the Washington Academy of Sciences December 20th, 1899.

Ethics may be defined to be the adjustment of acts to ends. In medicine the acts relate, for the most part, to conduct, impliedly good conduct, which "gains in ethical sanction" in proportion as the "activities do not necessitate mutual injury and hindrance" * * * "but consist with and are furthered by coöperation and mutual aid."

In a homogeneous citizenship the evolution of conduct proceeds with the development of christian civilzation, and by common consent, becomes the type of moral standard, which will unify the adjustment of acts to the attainment of a common purpose among the component constituency of any avocation in civilized life.

There is no occupation or trade without rules of conduct, either written or unwritten, which are either good or bad

as the ends to be obtained rise or fall in the scale of morality and good citizenship. A man may inherit or acquire the qualities of a gentleman. He need not be a Chesterfield in manners, nor a monk in the abstemious discipline of self-denial, but he can be a gentleman only by virtue of the adjustment of his acts to the aims of good conduct in the activities of human life. As with individuals so likewise with classes and communities.

The popular contention that gentlemen do not need a formulated system of ethics for their guidance is flatly contradicted by the history of every ecclesiastical and parliamentary body, social club, business organization, scientific society, and the unwritten esprit de corps of numerous classes of educated and cultivated people. In fact, in many instances, the unwritten ceremonial requirements of classes and of society in general are more rigorous and less tolerant than those of formulated systems of ethics. The inherent right of private judgment cannot be protected, either in public or private life, without the restraint of accepted authority. Two persons may differ in opinion, upon any debatable question, but neither has the right to push the difference to physical collision or sink it to the grade of moral turpitude.

In small populations, as with occupations with limited constituencies, the evolution of good conduct developes along the line of coöperative and mutual adjustment of acts in the promotion of the common good, but with increasing numbers "one is forced to live more and more in the presence of his fellows." In large and constantly increasing populations and membership in occupations, heterogeneity may, and frequently does, become a disturbing element, and organization with defined limitations of restraint and toleration becomes an important and necessary factor in the evolution of the highest type of ethical conduct. In other words, those acts which may be, as well as those which should not be done, must be set forth in such manner and form as may best promote the attainment of the highest standard of mutual good conduct.

Medicine is a composite science, and is, confessedly, the most difficult and intricate of sciences. The medical profession is, perhaps, the largest and most broadly educated class in every civilized community. Accessions come to it from every class and race of civilized peoples. In the broadness of thought and the beneficence of its acts and ends, it invites every class and caste of civilized races to its ranks, that it may continuously widen and expand the scope of its usefulness and philanthropy to the end, that every person and all peoples may seek and obtain through its good offices the full measure of a beneficent science.

In this country the evolution of medical ethics culminated in the adoption, at Philadelphia, in 1847, by a body of representative men (now known as the American Medical Association), of a code of American Medical Ethics, which with a few explanatory declarations, has been accepted by the profession at large as the common basis and guide of good conduct. Previous to that date the profession, in a few isolated localities, had established codes to segregate the qualified and honorable from the charlatan and mercenary impostor, with satisfactory results.

The unanimity of its adoption, general acceptance and continued enforcement

through half a century, without material alteration, eliminates any doubt of the wisdom of the adoption of such a system of good conduct. The question of policy being, therefore, settled, this discourse will be limited to the consideration of such salient features, as set forth the influence of the unification of ethical conduct, to the end that every member of the profession of medicine may exert "his best ability to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness."

The code is subdivided into three sections, under the separate headings of "The duties of physicians to their patients, and of the obligations of patients to their physicians; of the duties of physicians to each other, and to the profession at large; and of the duties of the profession to the public, and of the obligations of the public to the profession." The principles outlined in these headings are emphasized in detail, so that the whole is a concrete expression of the consensus of opinion of the duties and obligations which constitute the highest ideal of ethical conduct.

"Every individual on entering the profession becomes thereby entitled to all of its privileges and immunities," and, "should therefore observe strictly such laws as are instituted for the government of its members." Every organization of physicians, which by the adoption of its code of ethics, becomes affiliated with the American Medical Association, must possess the inherent right to prescribe and enforce such restraints as may, at times, be needful to discipline refractory members. Dishonorable conduct must have a limit. The code, however, is free from any threat of restraint by prosecution and penalties. It seeks to promote the evolution and unification of ethical conduct by sharply contrasting good and bad conduct and by marking the border line beyond which misdemeanor becomes a *corpus delicti*. It appeals to the nobler qualities of a high standard of moral excellence and beneficence, in that the physician may be the minister of hope and comfort to the patient, and bases this appeal upon the postulate that as the standard of qualification advances, so should ethical conduct rise along the gamut of evolution. "No scientific attainment can compensate for the want of correct moral principles." The code pleads for mutual forbearance, fraternal courtesy and a broad and generous fellowship, that contumely, bickering and discord may not fritter away the power and influence of the profession for good. Probity, candor and truth are qualities not less essential in support of professional character. "There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required, than the Medical; and to attain such eminence is a duty every physician owes alike to his profession and to his patients." In such incisive words the code vouches for honor and integrity, and stamps the derelict with the seal of condemnation.

The inviolability of the confidential communications of patients to their physicians is the first and most sacred obligation of professional life. It has come to us through the ages past as an unbroken rule of conduct, and all codes of medical ethics stigmatize with dishonor the voluntary disclosure of such confidences. The precept of the code extends the obligation of secrecy beyond the period of professional service, to the end that "none of the privacies of personal or domestic life, no infirmity of disposition or flaw of character observed during

professional attendance should ever be divulged except when imperatively required to do so." The force and necessity of this obligation are so great that the profession has sought the protection of statute law. In twenty States and in this District such laws have been enacted, the object of which is the extension to citizens the liberty of privileged communications and their protection in the enjoyment of the rights of unreserved and confidential confession to physicians. Such statutes add the force and fiat of law to the decree of the medical profession, which has always and everywhere throughout the civilized world resisted the compulsory disclosure in open court of information "acquired in attending a patient in a professional capacity and which was necessary to enable the physician to act in such capacity."

With equal cogency the system of ethics sets forth the obligation of qualification. "Medicine is a liberal profession, and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications, not on intrigue or artifice." To which is added the more authoritative declaration that "a regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession." So also does it insist that "the public ought likewise to entertain a just appreciation of medical qualifications: to make a proper discrimination between true science and the assumptions of ignorance and empiricism." These significant averments point to a high standard of scientific acquirement and expand the scope of ethical conduct.

Medical ethics as formulated in the National Code, combines knowledge with morality, and emphasizes, in spirit if not in letter, the truism, that in medicine the highest attainment of either cannot compensate for the want of the other.

The educational influence of the code is attested by history and observation. The assemblage at Philadelphia in 1847 was composed of the most distinguished and best equipped medical men from all parts of the country, who had come together to confer and devise a plan of organization, which should have for its object the unity of the profession upon a basis, that would define the duties and obligations of each individual member to each other, to the profession and to the public at large, thereby creating a compact body that would assert and make effective its prerogatives, pertaining to the promotion of good conduct and elevation of the standard of medical education. Whilst the maximum development along these lines of progress has not been reached, sufficient has been accomplished to invoke the gratitude of every true and conscientious physician. It gave impetus to new thought, out of which have come the State Medical Practice Acts; State and Municipal Sanitary legislation; the organization of health boards, associations, and departments; improved, enlarged and higher medical college curricula; a higher grade of scientific attainment; a more complete, and better adapted hospital construction, and improvement in hospital management; the protection, not yet complete in all the States, of the confidential communications of patients to their physicians from exposure in open court; and, with all, a wider scope of beneficence, a broader utility and more general diffusion of knowledge of sanitation and public hygiene. These and other reforms are the outcome of those precepts in the code

which enjoin the duties of good citizenship.

The educational obligations are not, however, limited to the promotion of a higher standard of professional qualification. Under the heading of "obligations of patients to their physicians," the code sets forth some very simple and general recommendations, which might contribute to the comfort and well-being of patients and increase the efficiency of medical service. "The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease and health, for the welfare of those who avail themselves of their services, certainly have a right to exspect and require that their patients should entertain a just sense of the duties which they owe to their medical attendants." No suggestion is made to interfere with the right of selection, but it does insist that a medical adviser shall be one who has received a professional education. Nor is the right to dismiss a physician denied, but justice and common courtesy require that the reasons for such dismissal should be declared. No physician not cognizant of the causes of his dismissal, can protect himself from sinister innuendo and defamation of character. Candor and frankness on the part of dissatisfied patients or their friends, and forbearance with good temper on the part of the physician would eliminate, in most such cases, friction and discontent. Patients naturally depend on the skill, attention and fidelity of their physicians, who should so "unite tenderness with firmness, and condescension with authority, as to inspire the minds of their patients with gratitude, respect and confidence." If every case committed to the care of a physician was treated "with attention, steadiness and humanity," we would, probably, hear less of antagonism between physicians and patients and professional work would more frequently result in mutual benefit.

The duties of physicians to the public is another educational function, which is so distinctly stated that nothing more is needed to invite your attention than its re statement in the language of the code. "As good citizens, it is the duty of physicians to be ever vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give council to the public in relation to matters especially appertaining to their profession, as on subjects of Medical Police, Public Hygiene, and Legal Medicine. It is their province to enlighten the public in regard to quarantine regulations; the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the Medical Police of towns, as drainage, ventilation, etc.; in regard to measures for the prevention of epidemic and contagious diseases" and "when called on by the legally constituted authorities, to enlighten coroners' inquests and courts of justice on subjects strictly medical." The American Public Health Association is the outgrowth of these injunctions, and has, perhaps, accomplished more than any other organization in the fulfillment of the "duties of physicians to the public," by popularizing the study of the science of sanitation and promoting legislation in the interest of public health. In some measure it has removed the mask of exclusiveness, which obstructs the diffusion of useful knowledge among the peo-

ple, and enlarged the opportunities for the practical application of the duties and obligations of good citizenship.

The very generous and magnanimous compliance of the profession with these injunctions has enlarged the sphere of its humane and beneficent instrumentalities, thereby contributing to the welfare of communities in the diminution of disease, preservation of health and prolongation of life.* So much has been accomplished along these special lines of progress that one is surprised at the defiant antagonism of the lay directories of some hospitals and other medical charities, and of legislative bodies, which seek by hostile interference and other reprehensible practices to limit and thwart the counsel of those who are the only competent advisors. Such obstructive methods will not cease until the profession asserts and maintains its prerogative in all the offices of good citizenship, which pertain to the health of communities.

There is another thought entitled to consideration in this connection, which invokes a more general fellowship with the great body of scientists, and that larger class of persons, not specialists in any branch of science, but patrons of learning, seeking to acquire and diffuse knowledge among all classes of educated people. The profession must abandon the privacy and exclusiveness of the closet and meeting room and engage more widely and effectively in the education of the public in preventive

In affiliation with other local scientific and learned bodies constituting the Washington Academy of Sciences, this Society has entered a new and larger field of usefulness, which abounds in the opportunities of a broader conception of its duties and obligations, that it may live more and more in the presence of the public at large. Scientific Medicine must fail in its mission of humanity and beneficence, in so far as it falls short of asserting the inalienable right, to lead, direct, control and dominate popular ignorance, prejudice and cupidity, to the end that legislators and all others in authority, must come to know its force and power in all things pertaining to the advancement of sanitary science and preventive medicine. The art of healing cannot be dissociated from the science of prevention. The education and betterment of the people in sanitation is not less humane than the healing of the sick. During recent years, this society has made creditable progress in this department of Medical polity, and now, with the coöperation of cognate and allied associations, it must hope to accomplish other reforms, still in abeyance through lack of information on the part of a suffering community.

The beneficent, moral and educational functions of the code are more distinctly and conspicuously set forth than the lucrative. Moral duty "is independent of and superior to all pecuniary considerations" nevertheless, the services of physicians "are of such a character, that no mere pecuniary acknowledgment can repay or cancel them." And in as much as the office of a physician cannot "be supported as an exclusively beneficent one, it is the duty of the faculty in every town or district to adopt some general rules, relative to pecuniary acknowledgments from their patients and it should

* Professor Finkelnburg, of Bonn, estimates that the average human life in the sixteenth century was only eighteen to twenty years, while to-day it is over forty years.

be deemed a point of honor to adhere to the rules with as much uniformity as varying circumstances will admit." Justice and equity are distinctly contrasted with mercenary extortion and gratuitous services to the affluent.

Non-sectarianism is a cardinal tenet of the code. There is not one article or clause in it "that interferes with the exercise of the most perfect liberty of individual opinion or practice," or that interdicts, under any circumstances, professional services whenever there is pressing or immediate need of them It does, however, assert that professional abilities and acquirements "ought to be the only acknowledged right of an individual to the exercise and honors" of the profession, and excludes from such association those "whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession; and of the "aids actually furnished by anatomy, physiology, pathology and organic chemistry." In no trade or occupation do "mankind rely on the skill of an untaught artist." Medical knowledge is not intuitive. Every physician must "rely upon the rectitude of his judgment," because there is no tribunal other than his own conscience, enlightened by knowledge, to adjudge the penalties of carelessness, neglect or ignorance. The creed of medicine condemns the idolatrous dogmas of Divine Metaphysics, Divine Healing, Christian Science, and other equally fraudulent practices and relegates them to the jurisdiction of criminal codes.

The spirit and precepts of the code have been legalized in most of the States by Medical Practice Acts. In this District three systems of Medicne have been legalized, with the requirement of the same standard of qualification of all licentiates in the branches of anatomy, physiology, chemistry, pathology, hygiene, histology, surgery, obstetrics and gynecology, diseases of the eye and ear and medical jurisprudence, leading the qualifications in the branches of Materia Medica, therapeutics and practice to be determined by the special requirements of each system. The movement, which originated with this society, now in progress to unify the requirements of the State Medical Practice Acts, is in the direct line of the teachings of the code, and it may be desirable, in the near future, to eliminate from these acts all reference to different systems of medical practice and base the issuance of licenses and practice medicine upon a uniform standard of qualification in the sciences which make up the science of medicine, leaving the disputed problems of therapeutics to the enlightened and conscientious judgment of licentiates.

Persistent misrepresentation of the non-sectarian spirit of the National Code of Ethics, did in some measure, for a time, interfere with the progress of medical education, but with the inauguration, under the auspices of the code, of the new era of a higher standard of qualification, legislatures have come to know their constituencies would not longer tolerate the prevailing ignorance among the practitioners in the "sciences which make up the art of medicine." By these adjustments of acts to ends, good conduct has obtained the sanction of law and the teachings of the code have been reënforced by the will of the people. Much, however, remains to be done, and the profession cannot hold itself blameless for such short-comings as may retard or impede the progress of education.

To such extent has this misconception grown that many people and some phy-

sicians believe the appellation of allopathy to the regular medical profession is a complimentary designation, and not, as intended an opprobrium. If there is a class or sect of people who hold the therapeutic doctrine that diseases are curable by the production of other diseases, such persons are outside of the regular profession and not fit to practice the healing art. The code denominates its adherents and followers, the regular profession, not in any invidious spirit, but because the system is based upon a knowledge of the sciences which make up the science of medicine.

In matters of etiquette, ceremony, intercourse and consultations, the code is distinctly advisory, but not in any sense mandatory. To promote the best interest of patients and to avoid reprehensible and contumelious interferences, professional intercourse must be guided by such uniform rules of good conduct as may conduce to harmony and coöperation in act and spirit. No hard and fast regulations can be made applicable in all cases. In exceptional instances all rules are subordinated to the emergency which demands immediate aid, but no circumstances can justify dishonorable and ungentlemanly conduct. If consultants were permitted to rush pell mell before the time agreed upon into the sick chamber, proceed with their examinations without the aid to be furnished by the attendant, consultations, which are for the benefit of the patients, would in most cases be unsatisfactory, and in many, disastrous to patients. The code advises consultations in difficult and protracted cases, because they "give rise to confidence, energy and more enlarged views of practice" and enjoins upon the consultant "the most honorable and scrupulous regard for the character and standing of the practitioner in attendance." To this end uniform formalities of etiquette and decorum dignify and emphasize the *esprit de corps* of professional intercourse, but really are of infinitely greater importance to the welfare of the patient.

Misconception of the tenor and misrepresentation of the purpose of the formal declaration of the duties and obligations of physicians in support of professional character have given rise to much inane criticism and, sometimes, sneering denunciation of Medical Ethics. There are very many good and well meaning people, who cannot understand why physicians should not submit to their unstable will, and change and modify the ordinary courtesies of good conduct, to sanction interference or to gratify caprice. Medicine is a deliberate and pains-taking science, conducted as will best conduce to the attainment of its highest aims. It is not an emotional profession, to be swayed by every outburst of bad taste, bad breeding, ingratitude and discontent. If the code tolerated submission to malevolent criticism and malign detraction, the practice of medicine would be degraded to the slavish service of menial servility. Medical men with loose and unethical methods, and others who have agreed on their honor to comply with the system of ethics have incited popular censorship by their failure or refusal to comply with its precepts.

No part of the code has been so much assailed by dissenters and pretenders as that section that declares it "derogatory to the dignity of the profession to resort to public advertisements, or private cards, or hand-bills, inviting the attention of individuals afflicted with particular diseases, publicly offering advice and

medicine to the poor gratis, or promising radical cures, or to publish cases and operations in the daily prints or suffering such publications to be made; to invite laymen to be present at such operations, to boast of cures or remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician." These are the most positive interdictions of the code. They set forth and condemn such meretricious methods to gain popular favor. Medicine is not a mercantile occupation, but a beneficent and life-saving science, and cannot, therefore, accept the rules and practices of trade and business as the guide of good conduct in matters pertaining to the discharge of its special duties and obligations. The medical profession would soon sink to the level of the advertising and mercenary quack if it permitted its members to display their qualities and successes in the public press, or in hand-bills through the bill-poster, or in bulletins thrown into doorways of private dwellings. In the rivalries of such reprehensible practices the ignorant and most unscrupulous would always be in the lead, and chicanery, duplicity and falsehood would be the winning qualities in the fierce struggle for subsistence.

"Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument," medicine or discovery, to dispense a secret nostrum, "or to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them." The public at large cannot appreciate the force and necessity of these restrictions, because it fails to discriminate between the objects and methods of business and those of a beneficent and liberal science, which seeks to promote the welfare of the people. The patenting of surgical instruments, medicines and discoveries is not only "inconsistent with beneficence and professional liberality" but would retard the progress of medical science and limit the sphere of its good offices and usefulness. If Jenner had patented the discovery of vaccination, small-pox would have continued to scourge the world. In what condition would medicine and surgery be today, if Morton and Simpson had, respectively, patented ether and chloroform anæsthesia? The lessened mortalities in medicine, surgery, and midwifery due to these discoveries cannot be measured by the money value of the agents employed. If Sir James Simpson, Gustave Simon and Marion Sims had patented their inventions and discoveries, gynecology could not have reached its present state of development. In fact, surgical gynecology must base its achievements upon the discovery of anæsthesia in 1846 and the invention of the duck bill speculum in 1848. If antisepsis had been patented, Lord Lister would not now be a peer of England, but a private citizen of Scotland, living, perhaps, upon the accumulated royalty of his patent. Honor comes to whom honor is due, but never to one who traffics in beneficence. Such are a few of the many illustrations going to show the wisdom of these interdictions.

In this connection I must invite your attention to another injunction, to the effect that physicians should exercise "their option in regard to the shops to which their prescriptions should be sent." The time has come, when the public welfare and individual reputations impose this obligation upon prac-

titioners of medicine. The claim of right, by pharmacists, to prescribe across the counter, to sell poisons without restraint of law, to repeat and duplicate a prescription containing poisons without the knowledge and consent of the physician making it, to dispense it to others than the original holder, and to substitute its ingredients have become such common evils, fraught with such danger to health and life, as to demand regulation by statute law. It may be, that if any organized body of physicians should issue and enforce its mandate, that patronage would cease with the continuance of the practices, the evil would diminish. While reputable pharmacists might accept the option of physicians as the rule of conduct, there are others, who openly and defiantly declare their purpose to disregard any such restriction.

Proprietary pharmacy is the most pretentious of the artful devices of empiricism. The daily mails bring to every physician the advertising bulletins of proprietary pharmacists filled with the certificates of physicians setting forth the wonderful virtue of some special compound, mixture, tablet, or pill, each of which is extolled as a panacea for diseases having no etiological or pathological relation to each other, and the credulous doctor goes forth on his daily rounds enthused with the single idea that he has at last discovered a remedy with which he can drug, dose or feed every patient, and, when the day's work has been finished, congratulates himself with the accomplishment of the highest aims of a beneficent science.

The National Code of Medical Ethics is the official declaration of the policies of the regular medical profession of this country. As such it will continue to command the respect and attention of those who believe that ethical conduct is an element of success, in the attainment of the confidence of the public. Observation and experience attest the soundness of this belief. Popular censorship never fails in the detection of apostasy, and is quick to stamp dereliction with the badge of dishonor. No physician ever failed in the practice of medicine because of his high ethical standing. The occasional loss of a client because of adherence to the prescribed rules of good conduct are much less frequent than losses from such irregularities as invoke profe sional criticism and discontent of clients. Those who stand upon the highest plane of ethical conduct and highest standard of professional qualification, will most surely command the respect, confidence and admiration of the public ; and reap the richest reward. The more the code is studied, the more highly will its precepts and policies be appreciated, and the more widely will it be accepted as the rule and guide of good conduct.

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Respiratory Lesions of the Grip.

The most serious complications of the grip are the bronchial and pulmonary inflammations. They are far more serious and fatal when complicated with this disease or immediately following it than under other conditions.

The reason for this is that the patient's vitality is so reduced by the principal disease that he is not able to resist the inflammatory process of pneumonia or bronchitis, or to throw off the exudates. Thus a localized pulmonary lesion, which he would ordinarily be able to control, is on account of his feeble vitality, allowed to extend, or the tissues break down, forming an abscess, in either case frequently with fatal termination.

The most important indication for treatment in such cases is to sustain the vitality of the patient, whatever else is done to relieve the immediate and variable symptoms. The chemically pure hypophosphite of lime and soda will be found to be the very best agent for this purpose. It stimulates the rapid renewal of the worn out tissue cells, giving vigor and resisting-power to the system. This it does, not by whipping up the tired nerves, but by nourishing them.

It is of the utmost importance that this remedy should be obtained in its pure form. The salts should not be oxidized into the phosphates, as in that form they are not appropriated by the system.

They should be prescribed in the form of McArthur's Syrup of Hypophosphites Comp., (Lime and Soda). This is an agreeable, wholesome syrup, containing only the pure hypophosphites of lime and soda. If you are not already acquainted with it, a full-sized bottle will be sent you upon receipt of 45 cents to cover express charges.

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BREAKS UP ASTHMA
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increases the secretion of the digestive fluids, relieves congestion of the mucous coats of the entire alimentary canal and restores the assimilative processes. Dose—one teaspoonful before meals; the dose before breakfast preferably in hot water. Samples to physicians who will pay express charges.

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Therapeutic Notes.

Bubonic Plague and its Prevention by the use of Plague Vaccine, Mulford's.

This disease, variously known as Plague, Bubonic Plague, Putis Bubonic, Swantine, Oriental, or Black Plague, and as "Black Death," seems to have its home in Asia where it is endemic in certain centres. From these centres it frequently spreads into contiguous territories and occasionally into remote regions.

At intervals it becomes exceptionally severe, spreads rapidly, invades unusual countries, and causes a great epidemic. Such outbreaks are recorded in the history of nearly all nations.

Its first appearance in Europe seems to have occurred in the sixth century.

THE PLAGUE VACCINE (HAFFKINE).

1. The most satisfactory means of preventing the disease among those necessarily exposed to it was suggested by Haffkine, and consists in the injection beneath the skin of vaccine prepared from a virulent culture of the plague bacillus, killed by exposure to heat. It is necessary that the culture be as virulent as possible and that its vitality be completely destroyed. The bacillus being a strong toxin producer, the vaccine depends for its power upon the toxin it contains.

The dose of Mulford's Plague Vaccine is one cubic centimetre, given hypodermically,—the packages employed contain one and ten doses respectively, no antiseptic being added to the contained vaccine, the entire contents must be immediately used when package is opened to prevent danger of contamination.

The vaccine should not be injected into cases that have been exposed to the disease and may already be in the stage of incubation, as its powerful toxin added to the little already in the system may hasten the fatal outcome. Used before infection has taken place, no possible danger can follow its use, but it should never be employed when infection has occurred.

The injection of the vaccine is followed by mild febrile reaction, malaise, and slight swelling of the lymphatic glands. This can be prevented by the previous administration of a few cubic centimetres of anti-plague Serum if it is obtainable.

The benefits to be derived from Mulford's Plague Vaccine last about a month.

Plague may also be prevented by the use of an anti-plague serum prepared as suggested by Yersin or Luestig. The dose of Yersin serum for prophylaxis is 10 c.c.; it should be repeated in ten days. The immunity conferred is said to last about a month.

ANTI-PLAGUE SERUM.

11. The curative treatment of Plague is purely symptomatic, except when Anti-plague Serum can be used.

This serum is now most highly spoken for by all who have used it and certainly exerts a definite specific effect upon the disease. The dose of the serum is large, 50 to 60 c.c. being administered at one time, sometimes as much as 150 c.c. being required to produce the desired impression upon the disease. The vaccine is given by hypodermic injections, where the skin is loose, as with diphtheria antitoxin. Anti-plague serum is at the present time in course of preparation in our laboratories.

Mulford's Plague Vaccine is furnished in sterile glass tubes containing 1 c.c. or a single dose, $1 00, and in vials containing 10 c.c., for 10 vaccinations, suitable for municipal or hospital use, $7.50.

The entire contents must be immediately used or thrown away when package is opened to avoid all danger of contamination from the air.

H. K. MULFORD COMPANY.
Philadelphia Chicago.

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Sevestre gives the following decoction to combat constipation in children:

R Boiling water - - - 200.0 grammes
Manna - - - - - 30.0 "
Senna Leaves - - - 4.0 "
Roasted coffee in powder 10.0 "

Strain. Take during the day.—*Gaz. des Hopitaux*, Jan. 18, 1900. (*Pediatrics.*)

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Treatment of Headache.

The first method of treatment in headaches is, of course, to try to supply the brain with healthy blood; to clear away any toxins that may be present in it; and one method of doing this I have just mentioned—namely, the administration of a blue pill and a black draught. But more than this, we may try to give something which may have the power of counteracting these toxins or of producing elimination from the liver, and I have found by personal experience, the easiest way of getting rid of the toxins or of counteracting their effect, I do not know which, is to keep up the action of salicylic acid or salicylate of soda. So that in persons who are liable to headache I generally prescribe salicylate of soda, 15, 20 or 30 grains at night, with 10, 20 or 30 grains of bromide of potassium. This mixture acts better than either salicylate of soda or bromide of potassium alone, and it will usually prevent the occurrence of headache in the morning.

If, however, the headache should still come on, I recommend that the dose should be repeated, and in the case of people who suffer from very violent and often recurring headaches, I give them the salicylate of soda not merely morning and night, but three times a day, in small doses, either immediately, before or after meals. The salicylate of soda is apt to produce a certain feeling of depression and weakness, and in order to counteract these I generally give it along with half a drachm of aromatic spirits of ammonia. Some of my patients have taken salicylate of soda for several years without any apparent harm, but we know theoretically that all these drugs allied to salicylate of soda have a tendency to produce anæmia; and it may be advisable in some patients, if you are giving the salicylate of soda regularly, to give also a little iron to counteract the effect of the salicylate in producing anæmia.

There is another large class of drugs that are used for relieving headache. These, I should mention, ought always to be given before the headache becomes too severe, because when it is severe, absorption from the stomach appears to be arrested, and many patients will tell you that the first dose they had of antipyrin acted like magic, but the next time they took it, it had no effect whatever, and you can tell them the reason why. The first time they took it was before the headache had got very bad. It was, therefore, absorbed from the stomach, and acted upon their nerve centers. The second time they waited too long, until the headache had got so bad that absorption ceased, and so the antipyrin was no more use to them in their stomach than in a bottle outside. Where you have to deal with headache it is always advisable to give your drug before the headache gets too bad All these belong to the class of drugs which act upon the conducting fibres or cells in the cord and tend to disperse pain. I dare say you know the old story of the dirty Scotch woman. A lady came in to see her one day and found the children walking and grubbing about, and she said to her; "Do you not often wash your house?" "No," said the woman. "But when the children come in with a lot of mud on their boots and they tramp all over the floor, what do you do?" "Oh, I make them knock it about until there is none." She distributed the mud equally all over the floor and then she thought it was all right. Now, that is what these drugs do to the pain.

Painful impressions do not pass to the cerebrum straight up as a rule, because, as you know, pain is largely conducted up the central column of the cord, and not up through the straight fibers which conduct tactile sensation.

If you can distribute your sensation so much that it will get broken up in the cord and will not reach the center for pain in the brain, of course the patient will not feel pain, and so antipyrin, nux vomica, strychnine, phenacetin, antifebrin, and all that class of drugs relieve pain with one exception—namely, if the pain be not too severe. If the irritation of the sensory nerve is so great that it will fill up all the channels for pain, then phenacetin or antipy-

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rin may sometimes make the pain worse than before. I did not believe this ; I thought it was quite contrary to anything that could possibly be but a patient of mine told me that the antipyrin which I had prescibed to relieve headache made him very much worse. I thought he was mistaken, but I have no doubt he was quite right, and that the reason was that the irritation was so intense, for it seemed to him that the pain had increased tenfold by this drug.

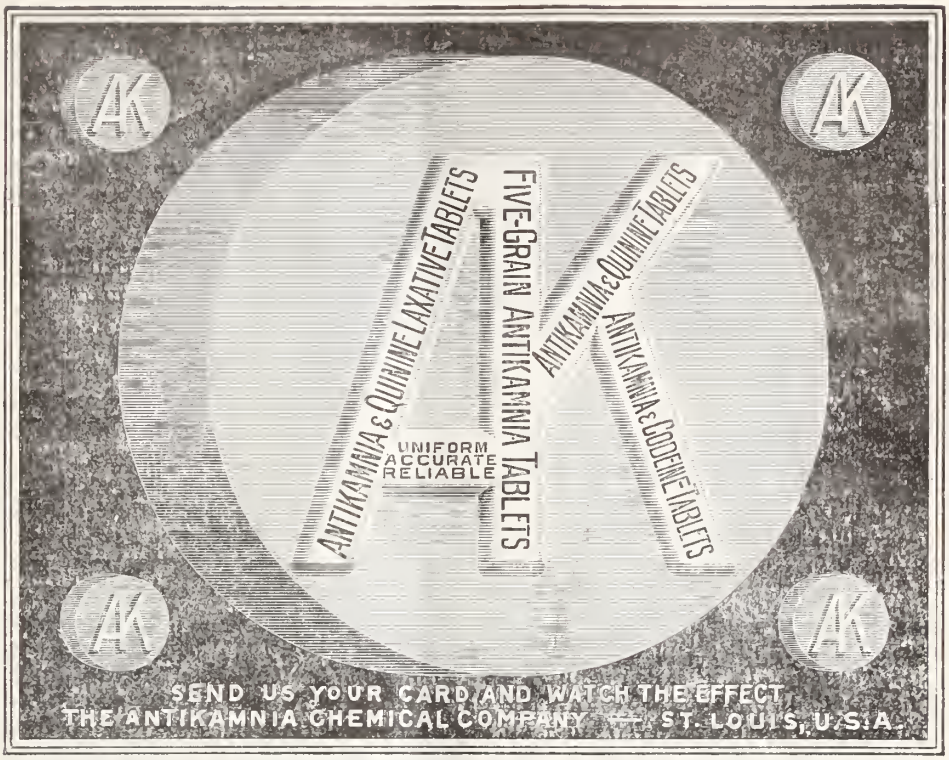
But there is another drug that is very much used, and which has a somewhat similar action, but it acts apparently more upon the posterior columns than upon the central columns—at least so far as experiment goes—and that is caffeine. In cases where the pain is so intense that these substances instead of relieving it seem to make it worse, there is perhaps no drug to which you can have recourse except the subcutaneous injection of morphine, and that relieves the pain and gives the patient quiet for the time being. But of course there is always the difficulty of the morphine habit arising, and so you put off the use of this drug as long as you possibly can. In some cases where there is continued pain in the head lasting for a length of time, cannabis indica seems to help, and this may be given either in the form of the extract or tincture. It is easier to regulate the dose of the tincture, and you may begin with ten minims three times a day, gradually increasing the dose. You must be careful about cannabis indica. There is no danger in it, I think, but you may greatly alarm the patient's friends if you run beyond 15 or 20 minims until the patient is accustomed to it. You may bring on a state of maniacal excitement which will greatly alarm the patient himself and everybody around him, but the long continued use of this drug will sometimes relieve these headaches when other things seen to fail.

For the relief of headache occurring through inflammation of the periosteum from gouty, rheumatic or syphilitic irritation, it is fortunate that one remedy is very useful—namely, iodide of potassium, which should be begun in small doses and gradually increased up to 10, 20 or 30 grains, three times a day. Where you think that the pain is not of a pure nature, not due simply to dilatation of the nerve fibriles in the fibrous tissue, of the periosteum but is associated also with some change in the vessels of a nature allied to them, which we find in sick headache, the iodide may be combined with bromide and salicylate, and in all those cases it is advisable to give some aromatic spirit of ammonia along with it, in order to prevent any depressing effect of the drugs.

There is one thing more. Whenever you get a case of intense headache which your drugs fail to relieve, always look out for glaucoma. Even in ordinary headache you will be very apt to find the affected eye is rather tight, that the intra-ocular tension is higher than usual, but in glaucoma it is very much increased, and this will be permanent, and not temporary, as in ordinary sick headache. In cases where this increased tension exists, you must either treat the glaucoma yourself, or have the patient operated upon by some specialist so as to prevent the loss of an eye as well as to relieve the headache which is so intense, and which comes along with the disease. Brunton. Abstr. in *Va. Med. Semi.-Monthly*, Richmond, 1900, v 23.

The Therapeutics of Iron.

Dr. Gellhorn, Assistant Physician, Dr. Mackenrodt's Gynæcological Clinic, Berlin.—That dietetic treatment alone may be successful in anæmic and chlorotic patients was laid down as a dictum by Immermann and Reinert at the Congress for Internal Medicine of 1895. It is natural to suppose that poor and ill-nourished persons would gain in strength under the influence of a proper and invigorating diet ; nevertheless, after eight to fourteen days a cessation in the improvement occurs and the old disorders return. These authors, as well as Nothnagel and v. Ziemssen, consider an invigorating diet as only a valuable adjunct ; both of the latter, moreover, regard rest in bed for several weeks as an



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important factor in the cure. Since several years Mackenrodt has also instituted a large series of observations of this kind, not yet published, in which, for purposes of control, he employed quantitative estimation of the hæmoglobin. It was found by him that under the influence of hygienic and dietetic regulations alone the quantity of hæmoglobin in the blood increased only at the commencement of treatment, and then only in a dilatory manner.

In the case of one of my patients I proceeded as follows : I prescribed Pepto-Mangan (Gude), one teaspoonful three times daily after meals, and regulated the diet in accordance with the directions furnished with preparation. Sour and fatty foods, as well as raw fruits, are to be avoided under all circumstances. Fritsch (Diseases of Women, 1892, pp. 469) advises, indeed, that the desire for acids manifested by chlorotics should be gratified. According to my experience, however, this craving for acids is to be regarded as a pathological condition of the alimentary tract, which is made worse by further supply of acids, but can be successfully overcome by an unstimulating diet. In cases where the social conditions in any way permitted, I allowed the patient to take a small glass of red wine three times daily, but never during a period of one hour before and after the administration of the medicament, in order to prevent the combination of the tannic acid contained in the wine with the iron. The use of potatoes was restricted as much as possible, at least, during the first four weeks. Furthermore, I resorted to the dietetic regulations customary in these cases, but changed them to advantage when, as so often happens, obstinate constipation was present, following in this respect the suggestions of Hebra, which have recently been again advocated by Ruge (Transactions of the Obstetrical and Gynecological Society of Berlin, I, III, 1896), and obtained generally excellent results. In contrast to several authors who made it a practice to remove any existing dyspepsia before resorting to the use of iron, I have followed the method of v. Ziemssen and Baumler, of at once administering iron—unless the presence of a severe gastric affection, especially ulcer of the stomach, could be positively determined—and observed as early as the end of one or two weeks an increase of appetite and subsidence of the gastric disorder.

I would lay especial stress upon systematic exercise in the open air. I ordered the patients, who, with but two exceptions, were treated out of bed, to take a stroll at midday, at first of five to ten minutes' duration. At the end of three to four days they were allowed to remain outdoors for five to ten minutes longer.

After each walk they were advised to take off their corsets, put on their slippers, and rest for an hour on the sofa. Under this treatment the lassitude invariably vanished after a time.

In the manner thus described I have treated in all about sixty patients. In twenty-four cases I instituted quantitative estimations of hæmoglobin at regular intervals of three, five, or eight days. Under normal conditions the quantity of hæmoglobin in woman amounts to 12.59 per cent. when estimated in comparison with the other constituents of the blood. Among my cases the lowest amount met with was, in a single instance, 30 per cent. of the normal, that is to say, of the above 12.59 per cent.

I also derived exceedingly favorable results from the use of Pepto-Mangan (Gude), in patients who came to us for operations after having been exhausted by protracted hemorrhages. Of course convalescence in such cases is delayed ; the system recuperates but slowly from the double injury inflicted by the losses of blood and the operative intervention. Digestive disturbances are especially apt to be troublesome In these cases ferruginous medication often produces remarkable improvement.

That the final estimates did not yield the normal quantity is not surprising since it is frequently somewhat reduced even in healthy persons. At any rate, the objective and subjective state of the patients in the above cases, as well as

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in the others not reported in detail, afforded the impression that a radical cure with complete restoration of the ability to work has been effected.

It must be conceded that in matters of therapeutics it is always difficult to appreciate correctly the relation of cause and effect, and to eliminate the factor of accidents in estimating the efficiency of any plan of treatment. And in order to arrive at a positive and unbiased decision, it is necessary to resort to a series of observations and control experiments of so great an extent that the single observer, even though he have at his disposal a vast amount of material, is only capable of furnishing a small contribution in the discussion of these questions. Furthermore, a certain amount of latitude must always be allowed to individual judgment.

Yet while fully conscious of these limitations I think I am justified in asserting that in my therapeutic trials with Pepto-Mangan I obtained all that can be rationally demanded. And I further consider myself warranted in stating that in view of the unquestionable necessity of ferruginous medication in certain troublesome constitutional affections this preparation acts as a most efficient and useful auxiliary to our therapeutic efforts. *Therap. Monat., May*, 1897.

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After an attack of the grip the patient finds himself in a state of extreme weakness and prostration from which condition he is tediously brought to his former good health. Remedies which stimulate his exhausted nerves too vigorously do so at the expense of his general condition. Then comes the relapse. Sys. Hyhophos. Com. McArthur conveys to the tissus the revivifying and vitalizing agent phosphorous in its mest oxidizable and assimilable form. Thus the true vitality of the nerve structure is restored by renewing the nutrition of the tissues themselves.

Uric Acid and Headaches.

A physician who has been experimenting to discover, if possible, a relation between headaches and the retention of uric acid, found experimentally, that he could produce a headache in himself by adopting a diet of meat and cheese—foods which are highly nitrogenous and which in their burning up, produce a great deal of uric acid. He found in himself an excessive excretion of uric acid during a headache, which perhaps means that a headache is a sign of nature's effort to relieve the system of a poison that would do worse than produce headaches were it permitted to remain. Such a headachy condition is comparable to the fevers which the human system often establishes for the purpose of riding itself of disturbing impurities, and can best be overcome by the timely administration of Laxative Antikamnia & Quinine Tablets.

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It gives me great pleasure to add my testimony to that of the many eminent physicians in this city and elsewhere, attesting the wonderful value of Sanmetto. In nearly all genito-urinary ailments, especially of a chronic nature, it is simply invaluable. I consider Sanmetto almost a specific for chronic prostatitis, especially in old men; where more or less hypertrophy exists; also in weakness of the generative system, it has wonderful power in restoring waning sexual strength. This is my first testimonial for any medicine, but having prescribed Sanmetto ever since its introduction to the profession, and watched its effects in several hundred cases, I feel that I need not hesitate to endorse it.—L. E. Miley, Grad. 1881 Michigan University; Member American Med. Assn., Member Illinois State Med. Assn., Member Chicago Med. Soc.

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constantly deploring, is child-murder. The photograph here reproduced shows a number of foundlings left at the door of that magnificent Italian institution, commonly called the "Girls' Orphanage," at Hankow. The institution now consists of five blocks of main buildings, two stories high. The number of inmates is seldom less than a thousand, and up to the present time 94,650 taels (£12,000) have been spent on grounds and buildings. The expenses amount to about 200,000 francs per annum, and this is contributed mainly by France and Italy. Females of all ages are admitted to the orphanage, from a baby to an old woman; though the institute prefers to have them when they are young. The inmates come in many different ways, and for many different reasons. The babies are received much in the same way as in all foundling hospitals. Baskets filled with hay are placed on the veranda at the front door of the orphanage, and the mothers who bring the children deposit them in the baskets. These is always a Chinese watchwoman on the lookout for these waifs of humanity, and as soon as they are noticed they are taken in and attended to. Notwithstanding all the attention bestowed upon them, the mortality amongst the foundlings is very high, and if ninety out a hundred live it is considered very good. Even after babyhood is past the foundlings require constant care and attention, and have to be treated with cod-liver oil and maltine until they are five or six years old. And this, of course, means that had they been left to the tender care of their Chinese mothers not one of them would have lived. It is a well-known fact that the percentage of female Chinese children who die is enormous. Girl babies are a desideratum in a Chinese household, so that when too many come along they are got rid of. Parents who are not devoid of all natural feelings bring their children to the orphanage and leave them there. On several occasions babies only one day old have been left in the baskets; and it is no great wonder that such frail morsels of humanity succumb to the effects of such unnatual treatment. There are no fewer than 500 nurses in the institution. All kinds of curious precautions are taken to prevent the babies from getting mixed up, each child having a special collar fastened round its neck.—*The Wide World*, London, May, 1900.

The Pseudo-Diphtheria Bacillus.

Ustredt (*Norsk Mag. for Lagevid.*, 1899, No. 6) has carried on a series of studies to show the difference between the diphtheria bacillus and the pseudo-diphtheria bacillus, in which he comes to the following conclusions: (1) The cultures of each are the same; (2) microscopically the pseudo-bacilli are much shorter; (3) the true diphtheria bacillus renders bouillon acid, the other does not; (4) in animal experiments the long bacilli are more or less virulent, the short are constantly non-virulent; (5) on blood serum the form of each kind remains constant, and they cannot be converted one into the other; (6) diphtheria serum is useless for the differential diagnosis; (7) those who carry the short bacilli in their mouths run no danger themselves, and are not a source of danger to others. *Md. Med. J.*, 1900, xliii, 252.

Labor in Elderly Primiparae.

Courgenon has published a thesis (Paris, 1900), upon this subject based upon a study of labor in all the elderly primiparæ confined at the Tarnier clinic in 1898-1899. The common belief that an element of danger is added to the prognosis in these cases, is in no ways borne out by statistics, and Budin's dictum that labor is the same, *ceteris paribus*, in these woman as in any other class, appears to be justified. There are no accidents of parturition which pertain essentially to this class of patients. There is, perhaps, more inertia and more indication for forceps, but not enough to affect the maternal and fetal mortality. *Obstetrics*, N. Y., 1900, ii, 187.

NERVOUS INSTABILITY,

impaired co-ordinatio , insomnia, disordered digestion, and the protean neurotic manifestations which make up the symptom-group of Neurasthenia are all, according to a recent writer, "**primarily anæmic**" in origin. It logically follows, therefore, that the essential therapeutic indication is to "build up" and enrich the blood——

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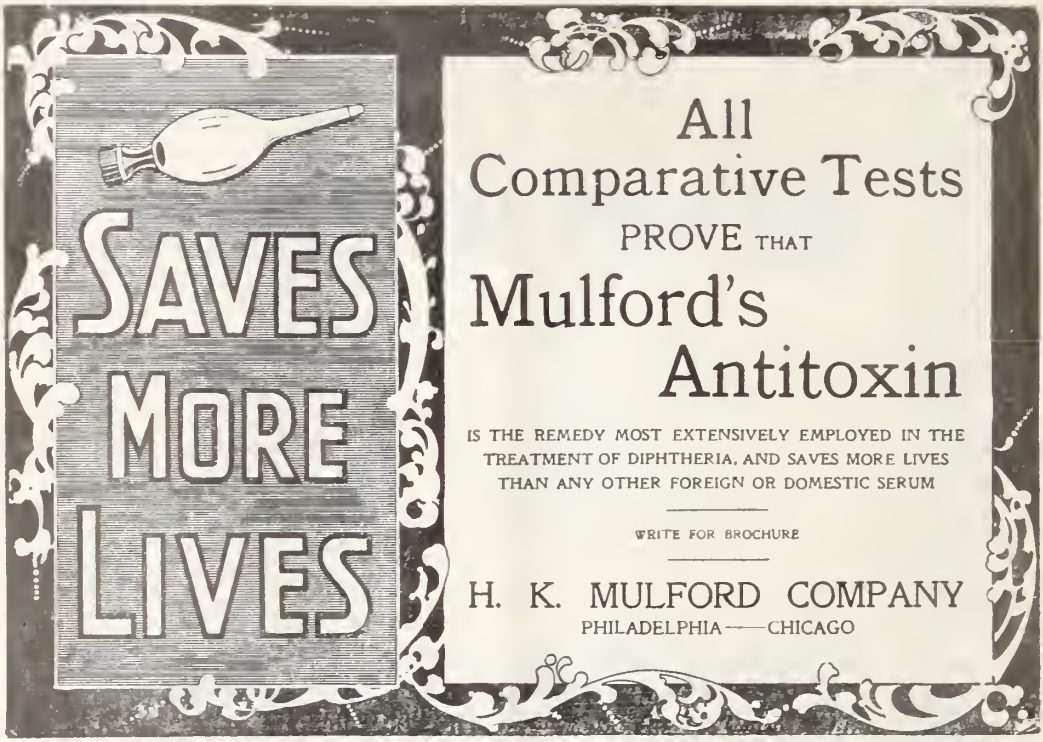

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NATIONAL MEDICAL REVIEW

VOL. IX. WASHINGTON, D. C., MAY, 1900. NO. 12

Original Article.

MUSCULAR RHEUMATISM: ITS ETIOLOGY AND DIAGNOSTIC RELATIONSHIP WITH APPENDICITIS.

By EUGENE C. UNDERWOOD, M. D.,
Louisville, Ky.
(Surgeon B. & O. S. W. Railway, K. & I. B. etc.)

Though various theories have been advanced concerning the nature of the lesions underlying the manifestations of muscular rheumatism, none of them have yet succeeded in obtaining universal assent. There are even some authorities who believe that no structural lesion exists, but that the pain, which is so prominent a symptom, is merely the expression of some functional disturbance due primarily to cold, dampness, etc.

It is fast becoming the opinion, however, of those who have made a special study of the subject, that a lesion does exist, and that the pathological condition is analogous to certain other forms of rheumatic inflammations—such, for instance, as occur in septicæmia and syphilis. In other words it is believed that there is a distinct interstitial myositis, due to the presence in the connective tissues, between the muscular fibres, of some foreign or extraneous substance—in most cases merely a cellular infiltration, not affecting the muscle fibres themselves, but, mechanically pushing them apart.

This infiltration may consist of various substances; e. g., of leucocytes (and eventually proliferation of connective tissue cells), or of toxins from various bacteria, or, lastly, of uric acid salts. Attempts have been made to isolate a specific micro-organism as the etiologic factor in the case, but, unfortunately, different investigators discover different bacilli; and, then, too, as is well known, myositis is often a sequel to such widely different infectious diseases as scarlet fever, gonorrhœa, etc. The point to be considered, therefore, would seem to be that an infiltration does exist, no matter from what particular bacterium or cause.

Though the lesions may, in certain cases, as just described, consist of organized material, it is, probably, in the majority of cases inorganic in nature, composed of salts precipitated from the blood into the interstitial tissues, to be from time to time reabsorbed, thus giving rise to disturbances intermittent in character. The question may arise, however, as to the cause of this deposition, as well as to the etiological connection existing between it and dampness and cold, the latter being, as is well known, the principal exciting factor in rheumatism.

The following clinical facts are important and must have some bearing on the subject under consideration. It is

well understood that rheumatism is often the result of chilling the entire surface of the body by exposure to cold and damp ness. It is also well known that decreased alkalinity of the blood plasma favors the deposition of uric acid salts in the connective tissues of the body. The significance of these two statements will at once be seen. As a result of exposure to cold, the normal acid secretion of the skin is suppressed, and as the acid which was formerly eliminated is thus retained in the circulation, the alkalescence of the blood is necessarily diminished. Reduced alkalinity of the blood plasma may also follow the ingestion of foods containing a high percentage of acid, or the absorption of the products of acid fermentation in the gastro-intestinal tract. This latter would explain why rheumatism is aggravated, and often times ushered in through indulgences in certain kinds of food. Subalkalinity of the blood, too, means diminished oxidation and, consequently, retarded nutrition, both of which are favorable to the formation of uric acid in the body, as well as to the growth of pathogenic micro-organisms.

If it be true, then, that an infiltration of the interstitial tissue between the muscle fibres actually exists, it would seem probable that some swelling should be discovered by carefully palpating the muscle affected. And such indeed is the case. Opoltzer, Ewer and Lacquer have repeatedly called attention to the fact that minute circumscribed patches of swelling could at times be felt in rheumatic muscles; while such expert masseurs as Meltzer, Helleday and Schreiber have also directed attention to these conditions. It is evident that a delicate touch is required, as well as wide experience in this particular work. It must, however, be borne in mind that the infiltration is not necessarily located in the spot to which the patient refers his pain, but frequently at some portion of the nerve trunk of which this is the terminal distribution.

These infiltrations may, of course, affect any striated muscle of the body, and are often found in the abdominal muscles, giving rise to symptoms simulating cholecystitis, intestinal colic, appendicitis, etc.—particularly the latter, if occurring in the internal obliquus on the right side. It is often an extremely difficult matter, observes Professor Adler (Cf. *New York Medical Record*, March, 1900), "to distinguish between an incipient appendicitis and a rheumatic affection of the deep muscles and fasciæ—especially when located in the region of the right iliac fossa." "The occurrence of this class of cases," continues he, "is by no means generally appreciated, and indeed the very possibility of rheumatic myositis in the abdominal muscles is not taken into account by the majority of practitioners." In conclusion he says: "Not a few cases have been diagnosticated as appendicitis, and not a few perfectly normal appendices have been removed, when the actual lesion was merely abdominal rheumatic myositis." That appendicitis has only in recent years become so popular a complaint, would seem to give additional force to the foregoing statement.

Among many similar cases which have occurred under the observation of the writer, we cite the following to illustrate some of the points above referred to.

In October, 1899, a consultation with a brother practitioner was held, to consider the advisability of an operation for appendicitis in the case of a woman, aged 45, who had complained for a week

or more of circumscribed pain over the appendix, which was gradually getting worse. The other symptoms in the case were not well marked. She had a slight fever, however, (temperature 101), and complained of sleeplessness, constipation and loss of appetite. The subjective pain was localized in the right iliac fossa directly over the appendix, though pressure there would cause it to radiate upward and forward nearly as high as the epigastrium. The patient was extremely nervous, having become imbued with the idea that she had finally become a victim of the dread malady she had so long feared. Her treatment had consisted of cold applications to the abdominal wall, rest in bed, diet, and opium internally to relieve the pain.

Examination failed to reveal any enlargement of the liver, and percussion there was not painful. Analysis of the urine however revealed biliary elements and uric acid crystals in abundance. Questioning, too, elicited the fact that the patient had previously suffered from two attacks of "stiff neck," as well as a lame shoulder. Feeling certain that the diagnosis of appendicitis was a mistake, the treatment was now entirely changed, the patient being put at once upon the anti uric acid treatment for rheumatism. Thialion was administered in teaspoonful doses, every two hours, the first day, until a free bilious passage from the bowels was affected. Thereafter, a teaspoonful was given in a glass of hot water every morning upon rising, and an anti-nitrogenous diet ordered.

The improvement was marked from the outset. The patient's appetite was restored, she became less nervous and slept better at night. The pain, too, gradually abated and at the end of a fortnight had disappeared almost entirely, the woman having resumed her accustomed household duties and abandoning the idea of appendicitis altogether.

Other cases have been seen by the writer wherein the symptoms at first pointed strongly toward appendicitis, the patients themselves fearing that disease. But every case of this kind has been speedily relieved by appropriate anti uric acid treatment of the character above described. Accounts of similar cases, in the practice of other physicians, might probably be multiplied almost indefinitely. In the words of Professor Adler, "Examples might be adduced in which myositis of the abdominal recti simulated peritonitis or intestinal colic, or when myositis of the quadratus and obliqui was diagnosticated as renal colic, but perhaps this will suffice to show that rheumatism of the abdominal muscles must be taken into consideration as among the possibilities in all cases of painful abdominal affections in which the diagnosis is at all doubtful."

THE NATIONAL MEDICAL REVIEW,

EDITED BY

GEORGE W. JOHNSTON, M. D., and THOMAS E. MCARDLE, M. D.,

AND

THE MILITARY SURGEON,

A SUPPLEMENT.

OFFICE: 1346 Florida Avenue, N. W.

WASHINGTON, D. C., MAY, 1900.

Notices and Reviews.

A MANUAL OF THE DIAGNOSIS AND TREATMENT OF THE DISEASES OF THE EYE. By Dr. Edward Jackson. Philadelphia. W. B. Saunders. 1900. Price, $2.50 net.

Professor Jackson has given the profession a very practical book which meets the needs of the general practitioner of medicine and the beginner of ophthalmology. He has accomplished his design of aiding in the actual work of dealing with diseases and, therefore, gives the place of first importance to the recognition and management of the conditions likely to be presented early in practice, rather than to the rarer diseases and more difficult operations that may come later. For practitioners in other departments of medicine and surgery the most important phase of ophthalmology is that of the relations of ocular symptoms and lesions to general diseases, and, therefore, in this work an entire chapter is specifically devoted to these relations. In the chapter on remedies and their applications the author says that formaldehyd is the best chemical disinfectant for surgical instruments; and in another place speaking of the preparations of instruments he advises placing instruments that cannot be boiled in a solution of formaldehyd five to twenty per cent. to which has been added three per cent. of borax. In this they remain continuously until required for use. They are then rinsed in a boric acid solution and wiped with cotton to remove any deposit

A MANUAL OF THE PRACTICE OF MEDICINE. By Dr. A. A. Stevens. Philadelphia. W. B. Saunders. 1898. Price, $2.00, net

This is the fifth edition of a valuable book for students, revised and enlarged with great care by the author. Such a work as the one before us is not intended to take the place of the regular text books but is designed to serve as an outline of Practice of Medicine which shall be enlarged upon by diligent attendance upon lectures and critical observation at the bedside. As has been said, this edition has been thoroughly revised and contains many important modifications and considerable additions. The student is assured that the work in its present form will be found equal to existing requirements.

AN AMERICAN TEXT-BOOK OF SURGERY. Edited by Drs. W. W. Keen and J. William White. Phila. W. B. Saunders. 1899.

More than one hundred colleges have adopted the American Text-Book of Surgery as a text-book and according to the statement of the publisher nearly 29,000 copies of the two former editions have been sold. All this must

be exceeding gratifying to the authors and a sure evidence of the approval of the profession. In this third edition among the new topics introduced are a full consideration of bortho—(serum), therapy ; leucocytosis ; post operative insanity ; the use of dry heat at high temperatures ; Krönlein's method of locating the cerebral fissures ; Hoffa's and Lorenz's operations for congenital dislocations of the hip ; Allis's researches on dislocations of the hip-joint ; lumbar puncture ; the forcible reposition of the spine in Pott's disease ; the treatment of exophthamic goitre ; the surgery of typhoid fever ; gastrectomy and other operations on the stomach, etc. The sections on appendicitis, or fractures, and on gynecological operations have been revised and enlarged, and many other changes and improvements have been introduced throughout the book. The increasing specialization of the surgery of the eye and the ear, and the growth of the American Text Book in size, have compelled the editors to omit these two chapters.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By Dr. James M. Anders. Philadelphia. W. B. Saunders. 1899.

In the second edition of this very valuable book, issued less than a year ago, Prof. Anders found it unnecessary to make any important alterations. The present edition, however, is the result of careful and thorough revision. Especially is this noticeable in the section on infectious diseases, a department in which the advance in our knowledge has been considerable in the last few years. A few new subjects have been introduced ; namely, glandular fever, ether-pneumonia, splenic anæmia, meralgia paraesthetica, and periodic paralysis. The extensive changes made by the author have given him the opportunity of improving the classification of the practical portion of the matter under appropriate headings. Scarcely subsidiary to clearness and accuracy of delineation in clinical medicine, to meet the needs of the medical student and busy practitioner, is a systematic and convenient arrangement of the diagnostic and therapeutic data. The proper classification of knowledge facilitates its acquisition by the student, and conveys to his mind a clearer and more lasting image. The various changes and additions add to the practical value of the work and it can easily be predicted that the third edition will enjoy the same measure of popularity as the former issues.

NERVOUS AND MENTAL DISEASES. Dr. Charles S. Potts. Lea Bros. and Co. Philadelphia. 1900. Cloth, $1.75 net. Flexible red leather, $2.25 net.

This work is the seventh volume of Lea's Series of Pocket Text-Books and furnishes a concise exposition of the most modern knowledge of its two separate but closely allied subjects. The histology and physiology of the nervous system are discussed in a manner essential to the understanding of the pathological conditions and symptoms arising therefrom. Full attention is given to matters of general symptomatology and methods of examination, and therapeutic measures both medicinal and non-medicinal are thoroughly discussed in the light of the most recent discoveries and achievements. Although especially useful for students this work will prove of value to practitioners, posting them thoroughly in the most recent points regarding a class of diseases which are exceedingly common and important, and often puzzling.

DISEASES OF WOMEN. By Dr. E. C. Dudley. Lea Bros. and Co. Philadelphia. 1899. Cloth, $5 net. Leather, $6.

The exhaustion of a large first edition in a year proves the success of Dudley's Gynecology both in plan and execution. The author covers the entire subject from a practical standpoint and avoids all speculative and theoretical views. His arrangement is exceptionally good, being primarily pathological and secondarily regional. This plan gives the student and practitioner all the obvious advantages derived from the natural method of understanding first the disease itself and thereby its effects in various organs and their treatment. The new edition is the

result of a searching revision. The illustrations form a special feature, not only in their abundance and originality, but also in their teaching power.

ELEMENTS OF CLINICAL BACTERIOLOGY. By Dr. Ernest Levy and Dr. Felix Klemperer. Philadelphia. W. B. Saunders. 1900. Price $2.50 net.

This work groups the results of bacteriologic investigation from the clinical point of view. Bacteriology has become more and more an indispensable aid to medical art ; it has enlarged our comprehension of the nature of infectious diseases, and it has established their prophylaxis, diagnosis, and treatment upon a broader and a firmer basis. Scientific activity in the domain of clinical bacteriology has been not less pronounced than fruitful during the period that has elapsed since the appearence of the first edition of this book, consequently the size of the present volume has been considerably increased by including the numerous results of recent investigations. Chapters have been added on plague and botulism, and those on immunity, diphtheria, typhoid fever, actinomycosis, examination of air and of water, and others have been radically revised ; and in all other sections numerous changes and additions have been made. The talented translator is to be congratulated on the ability with which his task has been accomplished. We believe the work adapted to the present position of bacteriologic knowledge, and predict that this edition will have the same friendly reception accorded the first edition.

THE TEST OF TIME AND EXPERIENCE.

This is a handsome brochure dealing with the diseases of the respiratory organs and is issued by the well-known house of Fellows. This treatise explains briefly the nature and effects of the hypophosphite salt, as combined in the syrup known as Fellows' Hypophosphites, and their special application in this form to those cases of disease which do not yield readily to ordinary treatment.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. By American and British Authors. Edited by Dr. J. Collins Warren and Mr. A. Pearce Gould. Philadelphia. W. B. Saunders. 1900. Price. Cloth, $5 net. Sheep or Half Morocco, $6 net.

The first volume of this very valuable work has already been reviewed in these pages. The second and concluding volume is devoted to the consideration of regional surgery and thirty-one contributors treat every region of the body commencing with Prof. Dandridge's chapter on the surgery of the mouth and tongue and concluding with the surgery of the skin by Prof. Matas. The four remaining chapters are by Forwood, Siegfried, Putnam and Cantlie. In a chapter of nearly fifty pages Col. Forwood gives a timely review of the subject of military surgery. The chapter is really a masterly consideration of a subject with which the author is thoroughly familiar. Dr. Siegfried takes about half as many pages to treat of naval surgery but he does the work excellently. The interesting subject of traumatic neuroses is dealt with by Dr. Putnam and the concluding chapter by Mr. Cantlie on tropical surgery is of special value at the present time on account of Uncle Sam's penchant for expansion into warmer climes.

GYNECOLOGY. A manual for students and practitioners. By Dr. Montgomery A. Crockett. Lea Bros. and Co. Philadelphia. 1900. Cloth, $1.50 net. Flexible red leather, $2.00 net.

This volume of Lea's already popular series of Pocket Text-Books gives in convenient form and concise language a compendious and well-illustrated presentation of the present status of gynecology. Entire originality is, of course, neither possible nor desirable in a work intended to summarize the best knowledge in a modern progressive branch of medicine. For the student Crockett's Gynecology will prove of great convenience and utmost value, while the practitioner may well refer to it for the latest points on every phase of its subject.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Edited by Dr. George M. Gould. Philadelphia. W. B. Saunders. 1900. Two volumes. Cloth $3 morocco $3.75 net. per volume.

The present edition of the American Year-Book surpasses even its predecessors in value. Dr. Gould is to be congratulated in getting the publishers to issue the work in two volumes. Not only does this form make it less tiresome to hold in reading, but it also makes it much more convenient for specialists. The first volume is devoted to medicine and contains the very latest thoughts, deductions and experiments in general medicine, pediatrics, pathology, nervous and mental diseases, cutaneous medicine and syphilis, materia medica, experimental therapeutics and pharmacology, physiology, legal medicine, public hygiene and preventive medicine, and physiological chemistry, all collected, collated, and edited by some of the best men in the profession. The second volume considers general surgery, obstetrics, gynecology, orthopoedic surgery, ophthalmology, otology, diseases of the nose and larynx, and anatomy. In a word these two volumes present a yearly digest of scientific progress and authoritative opinion in all branchesof medicine and surgery, drawn from journals, monographs, and text books of the leading American and foreign authors and investigators.

GOULD'S POCKET MEDICAL DICTIONARY. P. Blakiston's Son and Co. Philadelphia. 1900. Price, $1.00.

This is the fourth edition of a valuable book which has been enlarged to 30,000 words and 837 pages. The issuing of this edition is coincident with the sale of 100,000 copies of Dr. Gould's Dictionaries, a success that could only be attained by thoroughly good books and a success which, compared with the total number of English speaking physicians, is most remarkable. There are three things which specially commend this book : its price, the method in which the volume is printed and bound, and the wonderful amount of literary material contained between its covers

PROGRESSIVE MEDICINE. Edited by Dr. Hobart A. Hare. Philadelphia. Lea Brothers and Co. March. 1900.

As is well known, Progressive Medicine is a quarterly digest of advances, discoveries, and improvements in the medical and surgical sciences. The first volume for the present year, issued in March, contains valuable articles on the surgery of the head, neck, and chest ; infectious diseases, including acute rheumatism, croupous pneumonia, and influenza ; the diseases of children ; pathology ; laryngology and rhinology ; otology ; and a very complete index. This volume gives the busy physician what he needs to-day in well-told tales of medical progress in all its lines of thought, each one told by one well qualified to call only that matter worthy of attention and necessary to success. Every contributor to the pages of Progressive Medicine says what he has to say in a narrative form and places his hallmark on the text, so that it becomes a story bearing a personal imprint and expresses not only the views of the authors cited, but the opinion of the contributor himself.

Progress of Medicine.

Diagnosis of Gonorrhea in Women.

John G. Clark, in the *American Journal of the Medical Sciences* for April, 1900, gives a critical summary of the recent literature on gonorrhea in women. Regarding diagnosis, he says that the determining of this infection in women is much more difficult in women than in men, chiefly because a slight discharge may be considered more or less normal in women. The mere fact of such a discharge in the male is strong presumptive evidence of its specific origin. The certain diagnosis of gonorrhea in women depends very largely upon the demonstration of the gonococcus in the urethra. A profuse purulent urethral discharge is quite as diagnostic as it is in men, but this acute urethritis is comparatively fleeting in character, and the disease may persist months and even years after all these symptoms have disappeared. After the disease has become chronic, it may be possible to express a small quantity of purulent matter from the urethra or from the ducts of Bartholin's glands. A profuse yellowish discharge from the cervix is presumptive evidence in favor of this disease, but an opinion cannot be conclusively given unless the gonococcus is detected in the secretions.

In securing the pus for this examination, the greatest precaution should be observed not to have it contaminated by other organisms. The vaginal discharge for this purpose is almost valueless, as it has so many germs. That from the urethra, Bartholin's duct, or other concealed passages gives the best results. The cervix should always be examined, the secretions being obtained while in the Sims posture, which permits of complete exposure of the cervix.

Methylene blue is employed in staining. The secretion is spread on a coverglass or slide; it is then dried by passing it a few times over the flame of an alcohol lamp or gas-burner. The staining fluid is then dropped upon the slide and allowed to remain from one-half to one minute. It is then carefully washed in running water and dried with bibulous paper. To be certain of the diagnosis, the gonococcus must be found inside the pus cells. One examination is not sufficient to confirm negative results; the writer mentions one case in which twelve examinations were made, on different days, before the gonococci were found. *Medicine*, Detroit, 1900, vi, 410.

The Diet in Dilatation of the Stomach.

Albu (*Deutsche. med. Woch.*, No. 11, 1900, p. 180) deprecates the practice, which has been set down first by von Swieten, and then faithfully recommended by various authorities and taken in by the profession at large, of keeping patients with dilated stomach on dry diet. Von Mering has demonstrated that the healthy gastric surface is possessed of a limited power of absorption, while Moritz, on the other hand, has shown that fluid food leaves the stomach sooner than soft diet; and again, mushy food enters the intestinal tract earlier than solid diet. The whole question of diet in gastrectasia therefore hinges upon the condition of the gastric motor functions, and should be regulated not according to the existing anatomical lesion, but to the derangement of physiological efficiency. It seems, therefore, indicated to substitute, instead of the irrational dry diet, such a line of foods as will pass in the quickest easiest, and most complete manner into the intestinal tract, as had been previously recommended by Liebermeister, Pick, Fleiner, and Kussmaul. The possible objection that fluid diet is to be deprecated on account of its reduced nutritive value holds good for water and thin soups. Milk, however, offers an ideal means of nutrition, and should be used in all possible combinations, especially with eggs and some of the artificial albumins (nutrose, plasmon, etc), which, to the advantage of easy solubility, join that of being capable of intestinal absorption. The finer vegetables—spinach, green peas and carrots in purée form, asparagus, cauliflower, baked apples—are to be recommended. Meat should be finely chopped. Calfbrains and sweetbreads, fowl (excepting geese), and white dry fish meats may be

tried. Avoid beef, pork, and game. Of pastry, nothing but light cakes and rusks should be allowed. The necessity of toasting bread hinges upon the dry diet fallacy and may be disregarded. Butter should be used in small quantities (not over one ounce a day). It may be advisable to follow thorough lavage of the stomach with the ingestion through the stomach-tube of an appropriate nutrient mixture. *Medical Age*, Detroit, 1900 xviii, 351.

Comparative Drug Values as Observed in the Treatment of 752 Cases of Whooping Cough.

Dr. Charles G. Kerley read this paper. As the cases had developed, they had been separated into groups of twenty, and were allowed to cough without treatment until the height of the paroxysmal stage had been reached which usually required from ten to fourteen days. Careful records had been kept of most cases both night and day. The ages of the patients treated varied between six weeks and twenty-six years. Three patients only had reached adult life. Five-sixths of the patients had been under four years of age, and one-half under two years of age. The duration of the attack had ranged from three to twenty weeks, the usual duration having been between six and eight weeks. He had found that the very young and the very delicate often did not whoop during a severe attack of whooping cough. The drug treatment consisted of insufflation, internal administrations and inhalations. Resorcin and boric acid, combined with bicarbonate of soda, were used by means of insufflations in six institution cases, but had been discontinued after three days because the treatment had been impracticable and useless. Vapo cresoline had been tried with absolutely no result. He had allowed it to be used in a number of cases in private practice, because it quieted the nervous parents, and did the child no harm. Alum, fluid extract of horse-chestnut leaves, dilute nitric acid, cocaine, bromoform, bromides, belladonna and antipyrin had all been tried. The first three had been used, and been found valueless. Alum had appeared to be of some service, but had been badly borne by the stomach. Bromoform had proved very unreliable. Cocaine in doses of one tenth of a grain every four hours for a child of two years had been employed in about twenty-five cases. It had controlled the severity of the paroxysms somewhat, but not sufficiently to warrant its continuance. He had found great benefit from quinine if a large amount could be given. It was difficult to give from twelve to twenty grains of this drug daily, as required. When quinine could be given in capsules, the number and severity of the paroxysms would be remarkably controlled—sometimes the number being diminished one-third to one-half. He had used belladonna in sixty institution cases, administering it up the physiological effect; this had required from five to seven days. He had not observed from this any influence in a single case. True, the cases upon which it had been used were very severe, but they had yielded to other means. The children had been from six to seven years of age. Equal parts of bromide of sodium, ammonium, and potassium had been tried in sixty institution cases, using from twelve to sixteen grains daily for a child of one year. The results from this treatment were better than those previously mentioned. Antipyrin had been used in sixty institution cases, and he had found that it had controlled the paroxysms better than any other drug he had employed, and caused only a trifling depression if administered with ordinary care. The combination of the bromide with antipyrin had been used in sixty cases, with better results than from using either one of these drugs independently. For a child of eight months, half a grain of antipyrin, and two grains of sodium bromide should be given every two hours for six doses, and then its administration should be discontinued for a period of twelve hours. For a child between two and a half and four years of age, two grains of antipyrin and three or four grains of bromide should be given every

two hours for twelve hours, and then discontinued for twelve hours before being resumed. The steam spray and fresh air were also useful adjuncts to the drug treatment of whooping cough. A child suffering from whooping cough should be frequently changed from one room to another, and the best possible ventilation secured. The author's conclusions were: (1) Every case of whooping cough may be relieved, either by modifying the severity, or diminishing the number of the paroxysms; (2) the duration of disease is probably not shortened by treatment; (3) remedies sedative in character, with fresh air, give the best results; (4) if the remedy is to be of service, its beneficial results may be noticed within twenty-four to forty-eight hours; (5) the best results are obtained when antipyrin and the bromides are commenced at the height of the paroxysmal stage and then pushed vigorously; (6) being sedative in character, the good effects may be lost in a prolonged case; and (7) children may have whooping cough and never whoop. *Pediatrics*; N. Y., 1900, ix, 372.

Managment of the Hair During and After Fevers.

It is well known to both physicians and the laity that after fevers and parturition, as well as after some non-febrile but exhausting diseases, the hair is prone to fall out. The reason it does so is that during the illness the nutrition of the hair is interfered with, the hair receiving its blood supply from a deep plexus of vessels, and its nutrition sympathizing actively with the state of the general nutrition of the body. During the illness we shall be asked if we can not do something to prevent the falling out of the hair. Unfortunately, we can do nothing except try to keep the scalp in good condition. If the patient is very ill, we are unable to do anything active, but the attempt must be made to brush, or at least comb, the hair daily. If the patient is a man, that will be comparatively an easy task; if a woman, our task is much harder. Still, even then a nurse with deft fingers can comb out a little of the long hair at a time, and thus keep it from snarling. If the patient is not so ill as to preclude it, in addition to the daily combing of the hair a little oil or vaseline should be rubbed into the scalp once or twice a week.

As a rule, the hair does not begin to fall until some six weeks or more from the beginning of the illness. If the parient recovers with her hair in a snarl, should she be a girl under fifteen, the easiest course to pursue is to have it cut off as short as necessary to rid the mass of all the entangled hair. If the patient is more than fifteen years old, or even if she is younger and can command skilled care, the snarled hair must be disentangled by quiet and persevering effort. There is probably no snarl that will not yield to patient and persevering combing and manipulation.

It is during convalescence that the patient's friends, and perhaps the patient herself; are urgent for permission to have the scalp shaved and cross shaved. They will cite cases where this has been done and magnificent heads of hair have resulted, even straight hair coming in curly. It is useless to deny that such things do happen, but they are not consequent upon the shaving. I have seen more than one woman whose hair has come in curly, although lost after a fever, and without shaving. We should advise against shaving, explaining to the persons interested that it means a good deal of discomfort from wearing a wig, especially while the hair is growing, and a good deal of useless embarrassment on account of having to go about for months with short hair, to say nothing of the cost of the wig—a no small item. We should tell the patients that there is no way of foretelling how much hair will fall out, and that it is usually not enough to prevent "doing up the hair" so as to present a respectable appearance; and that if they will follow out directions they will have just as fine a head of hair as if they had shaved, and be saved all the by no means trivial annoyances that follow upon shaving.

We should direct that the hair be

brushed and combed daily, telling them that they need not be worried because this will pull out a good deal of their hair, as it is only the diseased hair that can be so pulled out, and the sooner it is out the better. Once or twice a week a little pomade containing a drachm of precipitated sulphur to the ounce of a good cold cream should be well worked into the scalp. Or we may use daily a three-per-cent. lotion of resorcin in oil and alcohol. Personally I prefer the pomade. Many prefer a liquid preparation. Once in two or three weeks the hair and scalp are to be washed. Of course, this will pull out a lot of the damaged hair, which is a matter of no consequence. For the shampoo, we may use any good soap, though the most convenient kind is a liquid one, such as the tincture of green soap. If the latter is used, we should direct the patient to invert the bottle on a piece of flannel, dip the flannel in warm water, and use just as little soap as will make a good lather. So used, the soap will not convert the hair into a mass of strings. If too much soap is used, it will be difficult to wash it out. The soap should be all washed out and the best way to do this is to have the patient place her head under the full stream of the bath room faucet, or a hose attached to the same. After washing, the hair is to be carefully dried, and a little of the pomade rubbed into the scalp to take the place of the natural oil removed in the washing.

I feel sure, from seeing the results of this plan of treatment, that if these directions are carried out the patient will regain all the hair she lost, and often get more ; she will be saved all the discomforts of having to wear a wig, and she will rejoice and give thanks to you. Jackson (G. T.) *N. Y. Med. J.* 1900, lxxi, 686.

The Care and Treatment of Summer Diarrhoea.

The care of the poor children, whether sick or well, was assumed by the State in some instances, by private individuals in others. Improving the condition of these wards tended to our own betterment. The close housing of the poor during the colder months tended to the increase of accumulating filth and general dirt, to lack of fresh air for breathing, and to little personal cleanliness. If infections diseases were not also increased the debilitated children were the more ready victims when they were exposed. In the summer the general health improved, but the tendency to intestinal disease increased, as there was an increasing liability to infection from improper or unwholesome food. In France one-half of the children below one year of age died each year from intestinal troubles. In three years eighteen thousands bottle-fed children died in Parisalone. The breast-fed did not escape entirely, but were less liable to intestinal infection. Nearly all children fed artificially got more or less cow's milk, and the many times it was handled gave many chances for infection, not only with animal filth but also dairy dirt, and particularly streptococci, which caused diarrhoea. The great medical congress of 1881, laid great stress on cleanliness. Soxhlet emphasized cleanliness in preserving milk. The greatest lights on the problem were those relating to cleanliness. It could be successfully accomplished in many ways. The foundation of infant feeding must be the mother's breast, yet this might vary from eighty-nine caloric equivalents to one hundred and twenty-six calorics. The absolute quantity at the breast being unstable, our rules for artificial feeding must vary. Meigs showed that the proteids were usually low in mother's milk, and that the fats varied much. Leading minds differed as to how the variations should be accomplished: some diluted only; others, as Meigs and Rotch, reconstructed. Jacobi and others diluted, and added ingredients. The key note of intestinal disorders was infection; therefore the sick children should always be separated from the well. We had as much responsibility in the intestinal infections as of prophylaxis in scarlatina or measles. The ignorant mother should be taught the possibility of carying contagion, and that the utmost care should

be exercised in washing thoroughly after changing the child's napkins, and that there be no rapid change from toilet operations to feeding. The physician should have constantly in mind the distinguishing characteristics of stools, that he might know when streptococci had disappeared and when milk could safely be resumed. Cases might be treated as ambulatory, coming to a dispensary, or in hospitals and sanitariums. Those patients taken out of doors did best, as they had fresh air. The stools should be examined grossly and microscopically at a laboratory in connection with the dispensary. For ten years the speaker had so managed his intestinal cases; and two hundred infants daily, the year around, received their proper milk supply there at the dispensary. Increasing weight encouraged the mothers. Mothers should not be allowed to get prepared or modified milk except on a physician's order, as they usually overfed. Even water was furnished for the preparation of albumin water. It impressed upon the mother the necessity of attention to details. Examining the stools was not a fad. It was a sure way of determining the proper treatment and food. The speaker advocated, as the ideal management, the treatment of one or two cases only together, in barracks or camps or huts on high ground, not necessarily near the sea but inland. These tents or camps could be comfortable but very simple, warmed if need be by a stove. The mothers should live with the babies and take them once a day to the central camp, where the physician could see them and prescribe. Infections like measles and scarlatina were not likely to spread there, and intestinal infection would rapidly subside. Here was a new feature for the summer management of the poor. Koplik (H.) *Med. Rec.*, N. Y., 1900, lvii, 777.

The Hot Bath as an Aid in Abdominal Diagnosis.

It is not necessary to speak at length about the importance of abdominal examinations in general. The value of inspection, in a good light and with the patient in proper position, in many local diseases of the abdominal organs and in certain diseases associated with eruptions or other alterations of the skin, is well known. The importance of palpation is also recognized. But even with the greatest care and skill, with the patient in a good position, the abdominal wall relaxed, the hands applied with ut any marked pressure from the fingertips, and the examiner standing or sitting in such a position that he has complete control of his work, in some cases the results are unsatisfactory. This may be due to rigidity of the abdominal wall from disease, or unusual irritability of the muscles without local disease, or sometimes simply to the thickness and healthy resistance of the abdominal wall. In such cases, where the suspicion of abdominal disease is strong, the patient is sometimes anesthetized for the purpose of completely relaxing the tissues. There is a method, however, of accomplishing the same results that is not only safer but actually superior—namely, by immersing the patient in a hot bath. This is no doubt practiced by many, but certainly not to the extent it should be, and it is frequently not mentioned in works treating of abdominal examination. A few years ago Lennhof and Berkhan advocated this method in Germany. On the whole references are exceedingly scanty.

The advantages of the hot bath are: In the first place, less risk—although it must rarely happen that serious or dangerous accidents occur from anesthesia given for diagnostic purposes, yet there is a theoretical danger that can never be lost sight of. In the second place, the method is less disagreeable, the slight discomfort from being immersed in very hot water not comparing with that from inhaling the anesthetic. In the third place, there is the great advantage of having complete control over the patient's respiration and in this way calling into play the powerful action of the diaphragm. The only difficulty about the method is that it requires a bath and a sufficient quantity of hot water and also, in cold weather, requires gradual

cooling before the patient can go out of doors. In order to use the bath, the tub should be long enough for the patient to lie almost flat. This is not absolutely necessary, and in a short tub we can get along by having the patient draw up the knees. Nor is it necessary to have the patient suspended in a support, although in some cases this may be pleasanter for the patient and easier for the operator. In using the hot bath the patient gets into a tub almost full of water at about 100° F., and the temperature is then rapidly raised by pouring in very hot water until it reaches at least 110 F. In many cases complete relaxation will be obtained in five or ten minutes at this temperature, but in other cases it may be necessary to raise the temperature as high as 120 F. As the water cools rapidly, hot water must be on hand for keeping up the desired temperature in cases of prolonged examination. The amount of relaxation obtained varies much in different cases, but is always sufficient to enable one to feel many things otherwise impossible.

In diseases of the gall-bladder and of the liver and pancreas, examination in the hot bath very often adds largely to the knowledge obtained by palpation, and should not be omitted in obscure cases. Dock. *Western Med Rev.*, Lincoln, Nebr., 1900, v, 133.

Diagnosis of Tuberculosis of the Urinary System.

W. W. Babcock, in the *International Medical Magazine* for March, 1900, says that the staining of sputum for the tubercle bacilli is a helpful and comparatively simple process. The same technique has been employed in searching for the tubercle bacillus in urine, which has been for the most part unsuccessful. It is this failure in the method employed which has led to the discarding of the search for the tubercle bacillus, as it was so often found to be absent in cases where post-mortem examination showed an unquestioned tubercular process. The bacillus in sputum is surrounded by a comparatively small quantity of tenacious mucus. When spread upon glass and evaporated, this adheres firmly to the slide, fixing the tubercle bacilli in position, and they are not readily washed away. When the tubercle bacillus occurs in urine, the conditions are very different; either there is a large amount of sediment which obscures the bacilli, or even in cases where there is mucus, it is associated with crystalline substances which are precipitated upon the glass and which prevent the mucus from adhering to its surface. The statement often found in works upon physical diagnosis, that the same technique is to be employed in staining urinary sediment for the tubercle bacillus as is used with the sputum, is an error and a frequent cause of failure. When collecting urine for examination, the utmost care should be employed to avoid contamination with the smegma bacillus, which closely resembles the tubercle bacillus in form and staining reaction. In the majority of cases it is better to obtain the urine by a catheter, and in such cases, if a small particle of mucus or caseous matter is found, this can be transferred directly to a slide, spread, dried, and stained in the usual way. If the bacillus is sought for in the urine, it is necessary to have a good centrifuge. A considerable amount should be employed, the clear part decanted off, and the collected sediments added together. The collected sediments are finally precipitated and cleared with the following solution:

Borax, 4 parts.
Boric acid, 4 parts.
Distilled water, 100 parts.

This is again centrifugalized, and if the remaining precipitate is small, it is transferred to a slide for staining. If the remaining precipitate is large, the phosphates may be dissolved by adding a drop or two of acetic acid. Urates may be gotten rid of by washing the precipitate with warm distilled water. Muco-pus is dissolved by adding a strong solution of caustic potash. The precipitate finally remaining is stained by one of the methods used in staining sputum. Care should be taken to use a decolor-

izing agent strong enough to remove the stain from any associated smegma bacillus. Such a decolorizing agent is found in :

Hydrochloric acid, 3 parts.
Absolute alcohol, 97 parts.

Medicine, Detroit, 1900, vi, 405.

Removal of the Bladder in Hysterectomy.

1. Removal of the bladder as a preliminary to or accompaniment of hysterectomy for cancer in order to extend the possibilities of surgery for malignant disease of the pelvis is a justifiable operation under certain desperate circumstances, and the recorded cases in the literature of uretero-rectal and vesico-rectal surgery encourages me to predict that the operation may become something better than a desperate alternative.

2. In the removal of the bladder the ureters should be transplanted into the rectum or sigmoid flexure in order to (*a*) provide reservoir room or a substitute for the bladder, (*b*) in order to obtain continence, (*c*) in order to obtain emptying power under the control of the muscles of the individual.

3. The principal objection to making the lower bowel a substitute for the bladder is the supposition that nephritis, as the result of ascending ureteritis, will invariably occur as the result of uretero-intestinal anastomosis and early death will be the inevitable outcome of the procedure. This supposition is supported by (*a*) theoretical grounds based upon the assumption of the inherent inability of the ureters to resist the septic bacteria always found in the intestines; (*b*) on the result of innumerable experiments upon animals which records show almost without exception destructive infection of the kidneys; (*c*) the death of three cases from nephritis and pyonephritis in the forty-eight cases on record which convalesced from the primary operation.

4. The negative to the supposition that destructive nephritis will invariably occur as the result of uretero-intestinal or vesico-intestinal anastomosis is supported by (*a*) theoretical grounds, based on the assumption that nothing but actual experience in the human individual can prove that the ureters and kidneys may not immediately resist or rapidly acquire an immunity to infectious material found in the intestines if they are artificialiy deflected into these organs; (*b*) the record of forty-eight human patients with vesico- and uretero-rectal transplantation living and a large percentage still well at periods varying from a few months to twenty four and a half years; (*c*) the record of human patients with skin implantation of the ureters living at varying periods from one to eighteen years.

5. By the removal of the bladder and the transplantation of the ureters into the bowel the amount of pelvic tissue which can be safely removed is materially increased compared with ordinary hysterectomy, it being possible to remove the broad ligaments to the verge of the pelvis, thus gaining fully an inch laterally, and the removal of the bladder, the lower end of the ureters and the urethra when necessary, materially enlarging the field of operation anteriorly.

6. *The operation of extirpation of the ureters and bladder* should not be undertaken by one not thoroughly experienced in pelvic and abdominal surgery and by one who has not thoroughly familiarized himself with the details of uretero-intestinal anastomosis by a thorough preliminary apprenticeship in experimental operations on animals. Martin (F. H.) *Am. Gyn. and Obst. J.*, N. Y., 1900, xvi, 395.

Washington, D. C., April 17th, 1900. At the 31st stated meeting of the Ophthalmological and Otological Society of the City of Washington, D. C., the following officers were elected for the ensuing year. President, S. O. Richey M. D. (re-elected) Vice Pres., Sect., and Treas. Anton Coe M. D., succeeding W. K. Butler M. D., who has filled these offices for the past four years.

W. K. Butler, M. D., Sec.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

STATED MEETING, JANUARY 1, 1900.

Dr. BUSEY, President, in the Chair.

The annual report of the Treasurer for the year 1899 was read, audited, and approved.

Balance, Jan. 2, 1899	$964.40
Loan at 6 per cent interest	1,000.00
Interest from all sources	78.46
Initiation fees	101.00
Assessments collected	1,096.00
	3,239.86
Expended per vouchers	1,209.77
Balance on hand	2,030.09

Membership—Removed from City, 2: Resigned, 3; Deceased, 5; Total loss, 10. Present membership, 288.

The following officers were elected for the year 1900:

President, Dr G. N. Acker; Vice-Presidents, Drs. Woodward and S. S. Adams; Treasurer, Dr. C. W. Franzoni; Corresponding Sec'y., Dr. T. C. Smith, Recording Secretary, Dr. F. P. Morgan; Librarian, Dr. E. L. Morgan; Board of Censors, Drs. C. W. Richardson, Klein schmidt, W. B. French, McLaughlin and Cook.

Dr. Busey in declining re-nomination for the Presidency, expressed his gratitude to the members of the Society for the honors which they had bestowed upon him during the past six years. He had endeavored to the best of his ability to promote the welfare of the Society, and to make it an authoritative body before the community. Much that had been accomplished was due to the faithful efforts of other officers, and he commended especially, Dr. Smith, who, by his assiduous care, had provided material of the highest class for the meetings. He wished the Society to feel that he appreciated most highly the honors and distinctions which it had conferred upon him, and that he should not forget them.

Dr. Acker, in taking the Chair, thanked the members most heartily for having conferred upon him the highest honor which the medical fraternity of the District could bestow, and stated that in the coming year, he should do all that he could to merit their confidence.

Dr. T. C. Smith gave notice of the following proposed amendment to the Constitution of the Society: "That Article 4, Section 5, be so amended as to provide for the admission of members upon the payment of five dollars, instead of ten dollars."

Upon motion of Dr. Smith, Dr. Busey was nominated to the Academy of Sciences for the office of Vice-President.

Dr. S. S. Adams moved that an assessment of $4.00 be levied upon each member for the coming year. Carried.

Upon motion of Dr. Busey, Dr. Acker was chosen a member of the Committee of the Joint Commission of Scientific Societies of the District of Columbia on Vivisection.

Dr. Sowers, chairman, read the report of the Committee upon Longevity.

WASHINGTON, D. C., Jan. 1, 1900.

To the President of the Medical Society of the District of Columbia:

SIR: At the Meeting of the Society held May 31st., your Committee expressed the opinion that much valuable information upon the subject of lon-

gevity might be collected by preparing a schedule of questions concerning persons over 90 years of age, their family history, habits of life, and present physical condition, etc., and to have the investigation conducted in connection with the U. S Census of 1900, with the hope that the family physician, in the interest of science would furnish the desired information. The Committee also stated that if the Society approved of the suggestion, it would, if so directed, bring the matter to the attention of the Director of the Census.

The report of the Committee and its recommendations having been approved, the Committee prepared the following schedule :

(Name and address of informant physician,)

Name :

Race and nativity, age, single, married, widowed.

Male or female.

Residence and occupation.

How long resided in rural district, towns, or cities?

Affluent' confortable, or poor.

Fat, spare, or average.

Full blooded, pale, average.

Weight.

Figure—erect, bent.

Voice—loud, clear, full, weak.

Eyesight—good, bad, indifferent, long, short, glasses how long ?

Hearing—good, bad, indifferent, deaf.

Joints of fingers and hands—natural, stiff, deformed.

Appetite—good, bad, moderate.

Digestion—good, bad, moderate.

Eater—large, small, moderate.

Number of meals daily.

Breakfast hour—hearty, medium, moderate meal.

Dinner hour—hearty, medium, moderate meal.

Supper hour—hearty, medium, moderate meal.

Animal food—amount daily.

Food general character of in the past.

Bowels—regular or irregular

Aperients—frequently, rarely, never.

Disposition—placid, irritable, energetic, lethargic.

Intellect—high, low, average.

Memory of past events—good, bad, moderate.

Memory of recent events—good, bad, moderate.

Tobacco—smokes much, little, moderately.

Tobacco—chews much, little, moderately.

Tobacco—uses snuff much, little, moderately.

Sleep—good, bad, fair.

Average hours in bed in early life, and after the age of 60.

Average hours of rising in early life, and after the age of 60.

Average hours of going to bed in early life, and after the age of 60.

Alcoholic and other beverages including coffee and tea, character and amount consumed.

Chest measure in inspiration.

Chest measure in expiration.

Elasticity of ribs, cartilages—distinct, indistinct.

Pulse—number of beats.

Pulse—regular, intermittent, irregular.

Pulse—large, small, moderate.

Pulse—compressible, incompressible.

Arteries—tortuous, visible, even, knotty.

Respirations—number of, regular, irregular.

Arcus senilis—much, little, absent.

Teeth—number of :

Incisors—Upper jaw ; lower jaw.

Molars—Upper jaw; lower jaw.

Canine—Upper jaw; lower jaw.

Teeth—artificial, how long worn—upper jaw, lower jaw.

Teeth—natural until what age ?

Baldness—early, late.

Grayness—early, late.

Health in the past—good, moderate.

Health in the past—often ailing, rarely.

Health in the past—enumerate character of disease.

Present maladies—their nature and duration.

Evidence of failure in heart, lungs, brain, urinary organs. Micturition—slow, frequent, difficult, painful, natural, incontinence.

Age when married.

Duration of married life.

Number of children.

Parents :

Father, age at death and cause of death.

Mother, age at death and cause of death.

Father's father, age at death and cause of death.

Father's mother, age at death and cause of death.

Mother's father, age at death and cause of death.

Mother's mother, age at death and cause of death.

Blood relationship between parents or grand parents.

In members of family has there been cancer, consumption, scrofula, gout, rheumatism, epilepsy, insanity.

Remarks :

After the completion of the schedule, the Chairman of the Committee, Dr. Z. T. Sowers, had several informal conferences with the Director of the Census and secured his cooperation and support.

As a result of these conferences and with a view of giving the inquiry a national character, the Committee requested the President of this Society to communicate with the President of the American Medical Association and secure his approval. Accordingly on Nov. 1st , Dr. S. C. Busey addressed the following letter to Dr. W. W. Keen :

"My Dear Doctor Keen :

A Committee of the Medical Society of the District of Columbia have formulated a plan by which the Census Bureau will be enabled to collect valuable information on the subject of longevity. It is proposed that a schedule of questions, copy of which is herewith enclosed, and which concerns only persons over 90 years of age, be placed by the Census Enumerator in the hands of the family physician, who, it is hoped, will furnish the desired information in the interests of Science.

The officials of the Census Bureau are of the opinion that these blanks should be accompanied by an appeal to the profession signed by the President of the American Medical Association in order to give the inquiry a national character and secure active cooperation, and I trust you will kindly sign the Appeal appended herewith."

The following is Dr. Keen's reply :

"My Dear Doctor Busey :

I take great pleasure in signing the appeal to the members of the medical profession and forwarding it to you.

I have ventured to make a few suggestions, which you will readily distinguish from the others by the different color of the ink. If I can aid you in any way, I will be very glad to do so.

I would suggest that the best way to reach the profession would be for you to have this appeal printed and sent to all the medical journals of the country."

The following is a copy of the Appeal referred to :

To the Members of the Medical Profession of America :

The Census Bureau has undertaken to collect data in relation to longevity in all persons over 90 years of age. In order that the results may be accurate and useful for scientific deductions, the Census Enumerator will place the schedule in the hands of the family physician, who it is hoped will furnish the desired information.

Such a collective investigation was conducted by the British Medical Association in 1886, and it is believed that a similar inquiry in this country will prove useful to mankind and reflect credit upon the scientific spirit of the American Medical profession.

W. W. KEEN,
Prest. American Medical Association.
Philadelphia, Pa., Nov., 3, 1899.

On November 10th, your committee submitted the following communication to the Director of the United States Census:

"SIR: The undersigned Committee at the request of the Medical Society of the District of Columbia, beg to submit for your favorable consideration, the enclosed schedule, with a view of collecting data in relation to longevity in all persons over 90 years of age. It is hoped that the work will be undertaken by your Bureau in the interest of science and humanity. The schedule is merely suggestive and can be modified to subserve your purpose. In order to secure prompt and accurate returns from all parts of the country and give the inquiry a national character, the President of the American Medical Association has signed a general appeal to the profession, which it may be well to print on the schedule.

Should you conclude to undertake this inquiry, it is respectfully suggested, that this appeal be printed and sent to all the medical journals of the country, as an additional means of securing universal co-operation."

The Committee takes great pleasure in reporting that the Director of the Census and Mr. Wm. C. Hunt, Chief Statistician for Population, have taken a deep interest in the matter, and it is gratifying to know that this important work will be undertaken as shown by the subjoined letter.

Very Respectfully,
Z. T. SOWERS.
W. W. JOHNSTON.
GEO. M. KOBER.

DEPARTMENT OF THE INTERIOR.
CENSUS OFFICE.
Washington, D. C., Dec. 22, 1899.

Z. T. SOWERS, M. D.
1320 N. Y. Ave., Washington, D. C.

DEAR DOCTOR SOWERS: In response to your request made during my absence from the city, I take pleasure in supplying the following information:

To carry out the plan of collecting data in relation to longevity in persons over 90 years of age, it is proposed in connection with the verification of the work of the punching clerks—a part of our mechanical tabulation—to have the cards representing persons reported as 90 years of age or over rejected by the verification machines, as a necessary part of the work of verification, and a special record made of each person of such age, comprehending all the essential data reported on the population schedule, and including the name and residence of each person so reported and the number of the enumeration district in which enumerated. With this record of each person 90 years of age or over to start from, it will be easy to forward a supplemental schedule for each person to a physician residing in the same city or town, with the request that the information called for therein be supplied by him and returned, when completed, in the envelope supplied for the purpose. The returns on the mortality schedule will supply the names of physicians to whom these supplemental schedules can be sent. It is estimated that there will be, approximately, 40,000 persons reported in June, 1900, as being 90 years of age or over, and, if satisfactory returns can be obtained from physicians for 10,000 of these, all the purposes of this supplemental inquiry will have been subserved.

This will not involve a great deal of labor on the part of the Census Office and there will be no necessity for calling upon the census enumerator to aid in the work in any way ; nor does special legislation to effect this purpose seem to be necessary.

Hoping this information will answer your present needs, I am,

Very sincerely,
WM. C. HUNT,
Chief Statistician for Population.

Dr. BUSEY moved that the report of the Committee be accepted and recorded in the minutes of the Society. Carried.

Upon motion of Dr. Sowers, the thanks of the Society were extended to W. R. Merriam, Director of the Census, and Wm. C. Hunt, Chief Statistician for Population for the valuable assistance rendered by them.

Upon motion of Dr. Balloch, the following resolution was adopted and recorded in the minutes :

Resolved.—That upon his retirement from the presidency, the Society desires to place upon record its sense of obligation to Dr. S. C. Busey for the signal ability with which he has discharged the duties of the office during his incumbency.

Recess was then taken until Jan. 10, 1900.

ADJOURNED STATED MEETING.
January 10th, 1900.

Dr. ACKER, President, in the Chair.

The report of the Treasurer in reference to delinquent members was read, and the following were dropped from membership in the Society for non-payment of dues: Dr. John B. Baggett, Dr. B. F. Madison and Dr. J. L. Brayshaw.

Dr. A. Jacobi, of New York, read the essay of the evening upon the subject, "Antifebriles." (The paper has not been received for publication). Upon motion of Dr. S. S. Adams, a rising vote of thanks was tendered Dr. Jacobi for his able and instructive paper, to which Dr. Jacobi made an appropriate response.

JOINT MEETING OF THE MEDICAL SOCIETY, D. C., AND THE CHEMICAL SOCIETY, OF WASHINGTON, D. C.
January 17th, 1900.

Dr. ACKER, President of the Medical Society, in the Chair.

PROGRAM:

Prof. W. O. Atwater.—The Action of the Law of the Conservation of Energy in the Living Organism.

Dr W. M. Sprigg.—Diet in Disease.

Dr. Charles Smart, U. S. A.—The Army Emergency Ration.

Dr. Charles F. Langworthy.—The Best Food for Brain Workers.

THE ARMY EMERGENCY RATION

By CHARLES SMART, M. D.

In military parlance a ration is the daily allowance of food for one man, and emergencies are occasions on which, from any cause, the troops are mainly dependent on food carried on the person. The ration for such emergencies consists of hard bread, bacon and peameal as its staples, with coffee or tea, saccharin, salt, pepper and tobacco as accessories. These particular staples were selected, first, because they satisfy the soldier as being familiar articles of diet, and, secondly, because as they are almost water-free food there is no weight to be carried which does not furnish energy when eaten.

As to quantity the ration consists of 16 ounces of hard bread, 10 ounces of bacon and 4 ounces of peameal, a total of 30 ounces. This must be regarded as a liberal allowance for, were we to look up the percentage composition of these substances and calculate from it the number of ounces or grams of the proximate food principles present in them, we would find that there is enough to furnish the system with potential energy equivalent to that of 4,110 calories, and this is a higher force value than was called for by Professor Parkes in his maximum diet for the soldier, 4,080 calories. In fact the standard dietaries of most of the authorities on this subject provide about 4,000 calories for a hard labor diet.

The proximate principles in the emergency ration consist of 4¼ ounces of proteids, 7½ ounces of fats and 14 ounces of carbohydrates. The proteids contain about 300 grains of nitrogen for the repair of muscular waste; the fats and carbohydrates supply the force and heat. Scientific criticism would object to this ration as containing so much fat that some of it would fail to be assimilated. This is true, but the soldier does not eat the whole of it unless the needs of his system during the emergency induce him to do so.

The soldier can carry on his person five of these rations. If the emergency does not last longer than five days, he will have food enough to sustain him during the hardest kind of service. This hardly required a practical demonstration, but such a demonstration was obtained by misadventure. An infantry command carrying five days' rations, was sent out from a military post. The command marched through a well settled agricultural country, and as the men had been paid before starting they supplemented their ration by purchases of country produce. The experiment was therefore a failure, so far as the men were concerned, but the officers endeavored to carry out what they misunderstood to be their instructions. They made an effort to eat the whole five days' rations in the five days and found that they could not. It was too much for them and it was intended to be too much. The proper object of their expedition was to discover how many days more than five the troops could subsist on their five days' rations.

Food is necessary, in the first place, to sustain life, that is to repair the waste and provide the energy incidental to the act of living, and, in the second place, to repair the waste and provide the energy incidental to the performance of outside work such as that involved in labor or exercise. To effect the first purpose an available energy of somewhat less than 2,000 calories is required. This is called subsistence diet. Playfair's subsistence diet provides a force value of 1,758 calories, with 138 grains of nitrogen for the repair of the muscular tissues. One-half of the emergency ration has a higher force value and more nitrogen than this. It was therefore claimed that in an emergency, troops in active service could subsist for ten days on a daily dietary having only one-half of the force value of the emergency ration, or, which is the same thing, that the five days' rations carried by the men, could be made to last for ten days without material impairment of the health or strength of the troops. It was claimed that on the half ration, that is, on 8 ounces of hard bread, 5 ounces of bacon and 2 ounces of peameal, daily, there would be no suffering from hunger if

this restricted dietary was not continued for too long a period : that on account of the shortage of carbohydrates in the half ration the system would assimilate the whole of the fat, and that the only material change in the condition of the men would be a manifest loss of weight on account of the absorption of some of their fatty tissues to make up for the deficiency in their dietary.

Two years ago 46 men of a cavalry troop, E Troop, 1st U. S. Cavalry, put these claims to a practical test. The command left Fort Sill, Oklahoma, with five days emergeney rations, and marched by compass, that is, irrespective of roads, as if on a special expedition in time of war. The Indian Reservation afforded excellent facilities for a test of this kind, for a command could march for the required number of days without having to pass within 20 miles of any settlement where the men might obtain articles of food unknown to their officers. Two pack mules accompanied the troops, one carrying a water-filter, a portable platform scale and a dynamometer, and the other a sealed box containing some extra rations in case of accident. The filter was intended to protect the men against typhoid fever from impure surface waters. During the preceding year, Troop H, 1st U. S. cavalry, 47 strong, returned to Fort Sill from escort duty on the reservation with 9 men sick with typhoid fever, 2 of whom died. Troop E, on its emergency ration march over the same ground and at the same season of the year, did not have a man sick. The seals on the box of extra rations remained unbroken until after the return to Fort Sill when the box was opened and its contents verified.

During the march the men were bright, active, cheerful, and appeared to suffer in no way from their restricted diet. Inspection of rations was held every second day to check any tendency on the part of the younger soldiers to an extravagant use of their supplies. The youngest man in the command was 21 2-12 years of age, the oldest, myself, 55 6-12 years. Twenty-two of the men were under 24 years of age and most of them had never been on field service before.

Every evening before stable call, officers and men reported in blouse, campaign hat, and leggins, to be weighed and test their strength on the dynamometer. Rain fell during two of the ten days and rendered it impossible to make a record of the weight on those days; but the weather cleared up on the last day of the march and the final weighing on arrival at Fort Sill was conducted under satisfactory conditions.

The command lost 135 pounds in bodily weight, or an average of nearly 3 pounds per man. It was feared that the deficiency of nitrogen in the half ration would sap the strength of the men by defective repair of the muscular tissues, but this fear was not realized for the daily tests with the dynamometer showed that there was no falling way in strength. In fact the command gained in upward pull a total of 1,079 pounds, or a gain of 24 pounds per man.

A control experiment was made during the same ten days. A detachment of an officer and 10 men made a similar march on full field rations. Their mess was a common mess and each man ate as much as he desired, but there was a loss of weight averaging 1 1/3 pounds per man. There was no communication between the two commands during their ten days march.

As regards the physique of Troop E, 1st Cavalry, at the end of the march, I

have no hesitancy in saying that the men were in better training and athletic condition than when they left Fort Sill to undertake the experiment.

MEETING OF JANUARY 24th 1900.

Dr. ACKER, President, in the Chair.

The Board of Censors having reported favorably upon the following candidates, they were elected to membership in the Society by invitation: Dr. Rice K. McClenahan, U. S. N., Dr. J. H. White, U. S. N., Dr. R. M. Woodward, U. S. N., Dr. Geo. E. Bushnell, U. S. A., Dr. Wm. B. Davis, U. S. A., Dr. Chas. R. Greenleaf, U. S. A., Dr. H. R. Greenleaf, U. S. A., Dr. W. F. Lippitt, U. S. A., Dr. Ed. L. Munson, U. S. A.

The resignation of Drs. R. M. Ellyson, Rupert Norton, and S. A. H. McKim, were accepted.

The President announced the appointment of the following members upon Committees for the present year:

Essay.—Drs. Smith, Pool and Parsons.

Editing.—Drs. Kober, J. D. Morgan, and L. Eliot.

Microscopy.—Drs. D. S. Lamb, Vale and J. B. Nichols.

Directory for Nurses.—S. S. Adams, Barker, McLaughlin.

Legislation.—Drs. Cook, W. W. Johnston, Magruder, Kleinschmidt, Reyburn, W. C. Woodward, W. C. Morgan, McLain, Hickling.

Public Health.—Drs. Chappel, G. W. Johnston, Balloch, Holden, D. O. Leach, Claytor and Ruffin. Committee Auxiliary to Committee on Public Health reappointed without change in membership.

Dr. C. W. Richardson invited the attention of the Society to the fact that within the next few weeks, the Senate Committee of the District of Columbia will take up the antivivisection bill and he emphasized the importance of members using their influence for the purpose of defeating the bill.

A letter from the Washington Academy of Science, requesting the co-operation of this Society in arranging a series of four meetings "relating to the exposition of photography as an aid to research," was read, and upon motion of Dr. S. S. Adams, referred to Dr. Busey, our representative in the Board of Managers.

1. Chronic Vegetative Endocarditis with Fever of Five Months Duration.

Case and specimen presented by Dr. W. W. Johnston.

Mrs—., aged 26. The patient was one of 15 children, two of whom died of pulmonary tuberculosis. She was married at 17; five years later she had a miscarriage and a second miscarriage in the following year. In 1893 she had an attack of accute articular rheumatism, lasting three weeks. During the following year she was sometimes troubled with shortness of breath and palpitation, especially after eating.

In January, 1899, she had a "cold" followed by fever, chill and frequent night sweats. She was once delirious. Under medical treatment she improved somewhat, though she was frequently feverish and had chills at intervals. In May she became worse and was under treatment in Johns Hopkins Hospital; from then till August she had fever of a remittent type rising to 101.2° and several times to 104°, rarely falling below normal. Patient frequently was irrational and wandering; a systolic mitral murmur following quickly upon systole was heard. Pulse 88 and more. Heart

showed no particular enlargement. At the same time there was a slight ptosis of left lid, a drawing of mouth to right side. There was a slight weakness of the muscles of the left side of the body and an exaggeration in the knee jerk of the left side. Iodide of potassium was given and she gradually improved. She returned to Washington in September and was under the care of Dr. H. M. Newman. At this time her face was covered with a pustular eruption evidently due to the iodide. There was much digestive disturbance, diarrhoea and progressive loss of flesh and strength. A loud mitral systolic murmur was heard. The fever was of a continued type ranging from 101° a. m., to 104° p. m. During the month she very rapidly failed. About the first of October the fever became markedly intermittent and the symptoms assumed the features of the latter stage of infectious endocarditis, with delirium, diarrhoea and rapid wasting and heart exhaustion. Death occurred October 11th.

Necropsy by Dr. D. S. Lamb. Body much emaciated; small red hemorrhagic spots scattered over the surface. Head, neck and spine not examined by request. Lungs œdematous throughout; a little bronchial exudate; no adhesion of pleura. Heart showed vegetations on pulmonary and mitral valves; the latter vegetations large and cauliflower like, extending into the left auricle. Liver much enlarged; some cirrhosis and congestion. Some greenish yellow bile in the gall-bladder. Spleen large; showed a number of yellowish and dark infarctions rather sharply outlined; old adhesions to liver. Pancreas normal. Stomach and intestines normal. Kidneys large and pale. Right ovary large and firm; left ovary cystic; uterus normal; many old adhesions around uterus and appendages.

This case is an example of chronic vegetative endocarditis of infectious nature with cerebral embolic and splenic infarctions. The long duration (five months) of fever of a continuous type, which occasionally became remittent and finally intermittent, was the most interesting symptom.

Dr. Lamb also presented a specimen of—

2. *Vegetative Endocarditis.*

A dark mulatto woman, age 26, whose mother had died of some heart trouble. Patient had had measles and whooping cough; typhoid fever at 18 years of age; rheumatism at 22, which lasted 2 months; she was never well afterwards; confined to bed much of the time. From the middle of September, 1899, had pains in joints and limbs and painful breathing. Admitted to hospital October 19th, with dulness over lower lobe right lung and mitral murmur. Oct. 25th, pain in chest and abdomen; 31st, headache and restlessness; Nov. 8th, gave birth prematurely to a child; Nov. 9th, much cough, respiration shallow and labored; urine dark; 11th, condition continued; partial stupor; soreness persistent in left side of chest; 17th, cough persistent; 23d, delirium. From this time urination and defecation were involuntary. Died Dec. 1st. During October the temperature rose to 102.4°; in the first half of November, to 103.°, in latter half, to 104, but was rather irregular. The pulse rose above 112 but once and this corresponded to the highest temperature, namely Nov. 26th. Respiration rose to 40 in October and to 53 Nov. 12th, which corresponded to the highest temperature in the first half of November.

The Necroscopy showed the following: Head, neck and spine not examined. Lungs were somewhat anemic anteriorly and slightly congested posteriorly; with old adhesions. Heart—chronic adhesive pericarditis everywhere; tricuspid opening and right ventricle dilated. Left auricle dilated and part of its wall lined with vegetations which extended to the mitral valve. Liver much enlarged, congested; old adhesions to diaphragm; some yellow bile in gall-bladder. Spleen enlarged, of irregular shape, one large yellow infraction and one large cavity filled with bloody liquid; old adhesions. Pancreas normal. Stomach and intestines normal. Kidneys pale and with yellowish infarctions. Uterus in subinvolution. Ovaries showed cicatrices. Bladder empty.

DISCUSSION.

Dr. S. S. ADAMS said that in the first case the pulmonary changes were evidently due to the vegetations upon the pulmonary valves. The pulmonary changes in the second case were interesting in that no changes had been found in the right side of the heart to account for them. It would almost seem that the emboli must have been small enough to allow them to go the entire round of the circulation before finally bringing up in the lung. He regretted that cultures had not been taken to ascertain whether sepsis might not have been present.

Dr. MOTTER said that Dr. Lamb's specimen, the spleen, was especially interesting inasmuch as the diseased tissue was beginning to break down. He had been much interested in the chapter in Lazarus-Barlow upon endocarditis. He divides the disease into two forms—the simple, and the ulcerative or malignant. In the latter, the staphylococcus and streptococcus are found, and also, occasionally, the diplococcus pneumoniæ, and the diplococcus gonorrhœa. In both forms embolism may occur, but in the simple, the emboli are sterile, whereas in the ulcerative or malignant forms, they are septic, and give rise to the same changes as take place in the heart—ulceration and pus formation.

The cases reported recalled the case of a woman, also 26 years of age, who was admitted to the hospital in the ninth month of pregnancy, with facial erysipelas. Had been robust previous to the attack. Five years before had had an attack of facial erysipelas; 24 hours after admission, she was seized with chills and fever, and labor came on. The last was normal, and there was no laceration. The physician who reported the case, stated that he arrived a few seconds after delivery, and took cultures, being particularly careful as to asepsis. The fœtus died in 19 hours of streptococcic endocarditis. The mother died a week later of purulent peritonitis. She had also streptococcic endocarditis. In this case, the fœtus must have received infection from the maternal tissues through the placenta, as all antiseptic precautions were taken.

Dr. CLAYTOR said that Dr. Adams had referred to Dr. Johnston's case as one of malignant endocarditis. This variety of disease is commonly spoken of as chronic malignant endocarditis. The question as to its malignancy was made clear, whether a bacteriological examination was made or not by the characteristic appearance of the vegetations, which are not such as are found in the benign form.

Dr JOHNSTON, in closing the discussion said, that as to the distinction between the benign and malignant forms of endocarditis, none can be really benign, all must be more or less septic. All infectious processes tend to produce more or less permanent local changes in the endocardium, and especially upon the valves. This is true of scarlet fever, acute articular rheumatism, and other infections. Why this change is so often localized upon the valves we do not know, possibly it is because they occupy a more exposed position in the blood stream. Here, there seems to have been first an articular rheumatism, and the present lesions may have been superimposed upon the changes produced by

that disease. The case is interesting as showing that an intermittent, a remittent, or even a continued fever may exist from local disease of the valves of the heart.

REPORT OF INTUBATIONS FOR 1899.

By C. W. Richardson, M. D.

Dr. Richardson said that he had to report thirty-three intubations, all performed during the year 1899 with 23 recoveries and 10 deaths and in addition two, which could not properly be included in this classification, inasmuch as the children were practically dead at the time intubation was attempted, and did not breathe after the tube was introduced into the larynx. He would go over the cases rapidly, and while doing so would make remarks in connection with the interesting features of each case that presented anything of moment :

Cases Nos. 1 and 2 presented nothing of interest, except that the patients recovered.

Case No. 3, operated on for Dr. Repetti, was interesting from the fact that the child was suffering with intense laryngeal dyspnœa for nearly twenty-four hours before the tube was introduced.

At the time the tube was introduced, the child was moribund. The pulse was thready, small, and the sensibilities almost obtunded ; nevertheless, the tube was introduced, and the child lived for sixteen hours. This also brings into consideration the two types of dyspnœa observed in laryngeal diphtheria. In one type, the one which is most frequently seen, there are paroxysmal attacks of intense dyspnœa, during which the child makes the most violent efforts at respiration, showing great alarm, anxiety, and evidences of cyanosis. These attacks are followed by intervals of fairly unlaborious breathing, but the breathing is audible and the child is excessively uncomfortable. These attacks increase in frequency and intensity until the child succumbs or is relieved.

In the second type, the breathing is usually not so stertorous as in the former variety. There are usually no paroxysms of intense dyspnoea, the breathing gradually but progressively becomes more and more embarrassed, and there is at no time that intense cyanosis which is observed during the severe paroxyms of the former variety. In this type there is more or less of a leaden pallor of the face and the breathing becomes more and more embarrassed until the little one passes away.

The next four cases present nothing of unusual interest, all being cases attended with recovery.

No. 8 was a case in which the child twice coughed out the intubation tube. At the first coughing out of the tube, I was within easy reach and reintroduced the tube within fifteen minutes after its expulsion. At the second coughing out of the tube, I was also within a few minutes of the house, but the parents of the child did not know of my whereabouts, and the child succumbed.

This case shows the importance of rapid intubation. A physician who was somewhat skilled in intubation was called in this case, but was unable to introduce the tube in time. I reached the house just as the last attempt was being made to introduce the tube. The child was gasping, and immediately the physician turned the tube over to me, and I quickly placed it in the larynx. Artificial respiration was attempted, but the child made no further effort at respiratory

movement. Dr Johnson, who is present, will remember one case in which it was shown how important it is to be well prepared for the reintroduction of a tube after a case has been extubated.

It was that of a child three years old in which I removed the tube, and immediately the most intense apnoea resulted. I fortunately had the armed introducer at my right hand, and in a few seconds had a new tube in the child's larynx. I am quite sure had I not taken this precaution of arming my introducer, the child would have died before I could have arranged my instruments to put a new tube in the child's larynx.

Cases 9, 10 and 11 present nothing of interest, except that they recovered.

Case No. 12 also is an interesting case, in that it demonstrates the necessity of quickness of action not only in intro duction, but in extubation. It was remarkable that this child practically died twice within fifteen minutes, while it was being intubated. At the first introduction of the tube, evidently a portion of membrane was forced down ahead of the tube, and the child ceased breathing at once. The tube was quickly extracted and artificial respiration started up, and the child commenced breathing again. I then reintroduced the tube and the child was laid upon the bed. While I was cleaning up my instruments and talking to Dr. Parker, I glanced towards the bed and saw that the child was a little uncomfortable. Dr. Parker and I passed over to the bed and noticed that the child was again breathing with extreme difficulty. I quickly placed the child in the father's arms, and before it was in position, the child ceased to breathe again, showing that a particle of membrane had entered the lower portion of the tube. Unfortunately, my instruments were in my case, and it required a few seconds to rush to my case and get the necessary instruments to extubate the child. This was all done and a new tube introduced while the child was practically dead. Artificial respiration was started again, and the child recovered. Unfortunately, this child died sixteen hours afterwards from cardiac paralysis.

Cases Nos. 13 and 14 present nothing of interest except that the children recovered.

Case No. 16 is interesting on account of its being a case of retained intubation tube. This retention was longer than any other case in my experience. It was 27 days from the time of the introduction of the tube before I was able to leave the tube out of the child's larynx. When I was called to this case by Dr. Behrend, I found the child in a practically unconscious state, respiration very feeble, and it seemed almost a question whether it would not be better to let the child quietly pass away than to attempt to prolong its life by the introduction of a tube. Dr. Behrend was almost of my opinion, but nevertheless, we introduced a tube. The tube was first removed the fourth day and immediately reintroduced. It was then extubated and reintubated every second or third day until the twenty-seventh day, when the tube was removed for the last time. The child recovered.

Case No. 16 is one of unusual interest in that it is the second case wherein I have reintubated a child within a period of eighteen months for laryngeal diphtheria. This child was one I reported last year, whom I intubated practically after death, with a most successful recovery. Again within twelve months, it had not only another attack of diphtheria, but another attack involving the larynx, which necessitated intubation. The intubation was attended with recovery.

Case No. 17 was interesting simply on account of the unusually high temperature which this child had with its infection. At the time of intubation the child's temperature was 104 5, went up to 105.5 and maintained itself at this high temperature until a few hours before death, when it reached 106. The child died twenty-six hours after intubation.

The next case, No. 18, was a very bad case, the cyanosis being very great and the difficully of breathing intense. In fact, the child was in such a desperate condition that I was afraid to move it from the bed, fearing it would die if attempts were made to elevate it I therefore introduced the tube with the child lying on its back in the bed. This child also had unusually high temperature throughout the attack of diphtheria, most of the time remaining between 103 and 105. rarely reaching 103. The tube was removed the fourth day, and had to be reintroduced the same evening and removed again in three days. The child was given in all 16,000 units of antitoxin, nevertheless, in spite of this heroic use of antitoxin, the case terminated fatally four days after the removal of the tube.

Case 19 presents nothing of interest.

Case 20 was a very severe case of infection, and died thirty hours after the introduction of the tube. No. 20 was one of a peculiar type. About a year ago I intubated a child in this family on account of laryngeal diphtheria, which was reported in my last year's report. It was a case which terminated fatally. At the time of this intubation, my attention was called to the child which I now report, on account of its peculiar stridulous breathing, especially during inspiration, which was ever present, being at times more intense than at others. When the breathing was severe there was always expiratory stridor. I was called to see this case with Dr. Mallan, and on account of increased intensity of the respiration, the great increase in the stridor, and the cyanosis and discomfort from which the child was suffering, there was a question in our minds as to the character of the lesion. Neither one of us was inclined to believe that it was due to diphtheria. I was very much disinclined to intubate this child, for I thought it was a case of laryngitis hypoglottica, but during the evening the difficulty in breathing became so intense that I found it necessary to introduce a tube. Culture showed no bacilli. The tube was worn sixteen days. The child recovered.

Cases No. 22, 24, and 29 were interesting in that no Klebs-Loeffler bacilli were discovered. In all three of these cases, the breathing was extremely difficult, the discomfort of the child was very great, and the evidence of the impending danger was too great to allow the child to go on without giving to it the benefits of intubation and antitoxin. yet on examination of successive cultures, no bacilli were found in these cases; therefore we are forced to conclude that they were cases of sub-cordal swelling. No other condition but sub-cordal swelling could have produced the intense dyspnoea from which these children were suffering. This form of laryngeal involvement is extremely interesting, and I have had under my observation five or six cases in children old enough to permit of laryngeal examination and have been able to demonstrate the condition. In these cases there is a great infiltration of the sub-mucous tissue just beneath the vocal bands, so that it becomes a great intumescent mass, which nearly obstructs the sub-cordal portion of the larynx. On inspection, this mass on each side can be seen standing out beneath the vocal cords as two prominent red lines, nearly meeting in the middle. Dr. Norton and Dr. Deale will remember cases of this kind which they had, and into which they called me in consultation.

Case No.	Physician.	Age.	Location of membrane.	Bacilli.	Stenosis.	Remarks.	Results.
1	Dr. R. T. Holden	8 years	Pharynx	Klebs-Loeffler	Intense	Tube worn 3 days	Recovery.
2	" A. Behrend	1 "	"	" "	"	Tube removed on 4th day	"
3	" Repetti	2 "	"	" "	"	Tube worn 16 hours	Death.
4	" Bailey	4 "	"	" "	"	" " 5 days, reintubated worn 7 days	Recovery.
5	" Gill	7 "	"	" "	"	" " 4 days	"
6	" Mayfield	7 "	" & Larynx	" "	"	" " 3 days	"
7	" Boyd	5 "	" " "	" "	"	" " "	"
8	" Morse	13 months	"	" "	"	Tube coughed out 3 day reintroduced	Death.
9	" Reisinger	4 "	" & Larynx	" "	"	Tube worn 3 days	Recovery.
10	" W. P. Carr	3 "	" " "	" "	Severe	" " "	"
11	" Roy & Smith	6 years	" " "	" "	Alarming	" " 3½ days	"
12	" Parker	12 months	" " "	Klebs-Loeffler	Intense	" " 16 hours	Death.
13	" Wall	4 years	" " "	" " "	"	" " 3 days	Recovery.
14	" Canaher	4 "	" " "	" " "	"	" " "	"
15	" A. Behrend	2 "	" " "	" " "		" " 4 days reintubated, tube worn 27 days.	"
16	" Keech	8 "	" " "	" " "	"	Tube removed 3 days	"
17	" Rhett Stuart	5 "	" " "	" " "	Severe	Tube worn 26 hours	Death.
18	" Perry	12 "	" " "	" " "	Intense	Tube removed 4 days	"
19	" F. Mallan	7 "	" " "	" " "	"	" " "	Recovery.
20	" Roy	15 months	" " "	" " "	"	Died in 30 hours	Death.
21	" Mallan	16 "	" " "	No bacilli	"	Tube worn 16 days	Recovery.
22	" Atkinson	1 years	" " "	" "	"	" " 4 "	"
23	" Sothoron	7 "	" " "	Klebs-Loeffler	"	" " 3 "	Death.
24	" Newman	3 "	" " "	No bacilli	"	" " 8 "	Recovery.
25	" Appleby	4 "	" " "	Klebs-Loeffler	"	" " 5 "	"
26	" C. R. Luce	4 "	" " "	" " "	"	" " 4 "	"
27	" Appleby	8 "	" " "	" " "	"	" " 3 "	Death.
28	" "	3 "	" " "	" " "	"	" " 6 hours	"
29	" D. O. Leech	3 "	" " "	" " "	"	" " 5 days then 3	Recovery.
30	" Graham & Perry	6 "	" " "	" " "	"	" " 4 days	Death.
31	" C.W. Richardson	7 "	" " "	" " "	"	" " 4 "	Recovery.
32	" H. Newman	4 "	" " "	" " "	"	" " 1 "	"
33	" Atkinson	18 months	" " "	" " "	"	" " 6 "	"

DISCUSSION.

Dr. KEECH said his patient referred to by Dr. Richardson was first intubated Nov. 21, 1898, and the second time, Oct. 8, 1899, so that less than 14 months intervened between the two operations.

Dr. D. OLIN LEECH inquired whether antitoxin had been given in all the cases reported. In his, 2000 units had been twice administered, 12 hours apart. No bacteria had been found until the removal of the tube the second time.

Dr. BEHREND inquired as to the cause of the stenosis often observed after the tube has been removed, and the disease has abated.

Dr. S. S. ADAMS said that one point brought out by the report was that whereas the mortality from diphtheria in these cases was 75 per cent. before the time of intubation the percentage of recoveries is now 75 per cent. He did not think that the 2 cases in which intubation was performed, and the patients did not breathe thereafter, should be taken into consideration in estimating the mortality as many such cases are operated upon in extremis. One point which the intubator insists upon is, that as soon as the first signs of stenosis have appeared, the sooner intubation is performed, the better. To wait, or to depend upon antitoxin under these circumstances is blameworthy.

Dr. KEECH said that in the first of his cases in which Dr. Richardson performed intubation, he made an error in delaying the operation, and as a result it was not done until the second day after the stenosis appeared, fortunately the child recovered.

Dr. RICHARDSON, in closing the discussion said that in some cases antitoxin had not been administered when he was called in. In one case, the child had been sick 4 days, and the attending physician had not given antitoxin. He gave it, and the patient recovered. The necessity for reintroducing the tube, is due to the fact, that the greatest pressure from the tube is in the cricoid region, which in the child is small. The effects of this pressure, hyperæmia, or congestion, or even a small area of ulceration becoming apparent when the tube is removed, may necessitate its reintroduction. A badly fitting tube, or the accumulation of calcareous incrustations upon the tube may produce a similar condition and necessitate reintroduction.

He agreed with Dr. Adams that any case of stridulous breathing in a child, who had not received antitoxin, was an indication for intubation, and that even if antitoxin has been given, and the symptoms of stenosis are not actually alarming, intubation should be performed, as it involves no danger if properly done, and saves the heart and strength of the child.

MEETING OF JANUARY 31, 1900.

Dr. ACKER, President, in the Chair.

The President read the following letter from Dr. W. W. Keen, President of the American Medical Association, dated Philadelphia, Jan. 25, 1900.

I have a letter from Senator Gallinger saying that the Committee on the District of Columbia will give a hearing on the Antivivisection bill of Senator Gallinger, Sen. No. 34, sometime in Feb. The Humane Society of Washington are distributing from house to house a pamphlet entitled "Human Vivisection," and are putting forth every possible effort to push their Bill. It is of the utmost importance that we have the strongest Committee to go to Washington to present our side of the case. Even though only 3 or 4 speak, I am very anxious to get the strongest men in the country. I have invited Presidents Eliot, Gilman, and Hadley, and Drs. Bowditch, Weir Mitchell, Billings, Osler, DaCosta, Janeway, H. C. Wood, Senn, Roswell Park, Wm. H. Welch, Salmon, Sternberg, Mary Putnam Jacobi, Provost Harrison. The President of the Medical Society D. C., the Sec'y. of Agriculture, and others to form part of the Committee. I have written asking for 2 weeks' notice, and the moment I receive notice, I will then ask a few of the persons named to address the Committee in opposition to the Bill.

Dr. KOBER moved that the Chair be authorized to appoint two delegates to

the National Pure Food and Drug Congress, which is to meet in this city, on March 7th, proximo. Carried. The Chair appointed Drs. Kober and Motter.

Dr. MOTTER called the attention of the Society to Senate Bill No. 126, entitled "A Bill to provide for the compulsory support of children by parents in the District of Columbia and for other purposes." Referred to the Committee upon Legislation.

Dr. LAMB presented the following specimens :

1. Portion of dura mater presenting many bony growths, of large size, in the falx cerebri.

2. The right kidney and bladder ; the kidney is somewhat enlarged and shows patches of miliary abscesses ; in the submucous tissue of the bladder are about a dozen hemorrhages. The patient was a colored man 34 years old. Had had measles, typhoid fever, whooping cough, mumps, chicken pox and the grippe.

His last sickness lasted a few days over a month ; was in hospital the last 18 days. His sickness began with hemorrhage from bowel followed by hematuria. All the superficial glands were enlarged. In the third week of his illness the temperature ranged daily from about 99 to 102, pulse 84 to 108 and respiration 20 to 28. In the 4th. week temp. 98 to 101.6, pulse 80 to 106, resp. 20 to 24 ; and during this week he had pain in abdomen and chest with vomiting ; two days afterwards the pain in the abdomen was more severe and he had hiccough. The next day, Sept. 21, 1899, bloody sputa and the abdomen distended ; temp. rose from 101.6 to 105, pulse from 112 to 144, resp. 24 to 32. Temperature decreased, while pulse and respiration remained about same until 24th. and he died on 25th.

Necroscopy. The body was well nourished. The heart weighed 14 oz. was pale and showed multiple hemorrhaget under the pericardium. There was slight atheroma of aorta. Lungs congested, œdematous and much pigmented ; no adhesions. Bronchial glands normal, as also the oesophagus. Liver large, pale and firm ; some bile in gall bladder. Spleen weighed 42 oz., pale ; lymphoid follicles enlarged. Stomach and intestines normal except that the latter were distended. There were many subperitoneal hemorrhages. Vermiform appendix normal. Kidneys large and as described ; bladder distended with urine and as described. Lumbar glands enlarged.

This case is somewhat puzzling. The enlargement of the spleen is not exactly what is usually found either in leukemia or Hodgkins disease ; the lymphoid follicles were distinctly enlarged. The conjunction of subpericardial and subperitoneal hemorrhages with the hemorrhages in the bladder and the bilateral miliary abscesses of the kidney, do not seem to have any connection with the lymphoid increase, seem to be entirely independent and point to an infection. It looks to me as if the infection entered by way of the bladder, thence spread to the kidneys and the subserous hemorrhages followed. The sudden rise of temperature 4 days before death perhaps coincided with the beginning of the distinctly suppurative process.

3. A coronal section of left kidney showing chronic hemorrhagic inflammation ; with sclerosis of renal artery. From a colored man, age about 70 who was admitted to hospital comatose and died three days afterwards. The necroscopy showed a body fairly nourished. Brain anemic with some atheroma of vessels. Lungs oedematous and with old adhesions.

(*Continued in June Number*

THE MILITARY SURGEON

A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Major and Brigade Surgeon, U. S. V., Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. II. WASHINGTON, D. C., JUNE, 1899. NO. 4.

Original Articles.

GUNSHOT WOUNDS IN THE SPANISH-AMERICAN WAR.

W. C. BORDEN,
Major and Surgeon, U. S. V.

At a largely attended joint meeting of the Medical Society of the District of Columbia and the Anthropological Society of Washington, D. C., held in that city on April 26th, several papers were read on modern gunshot wounds, especially in their relation to the Spanish-American war.

The first paper was by Dr. Kober, of Washington, who gave an excellent presentation of the history of small arms, together with the conclusions reached by experimental investigators, prior to 1898, with reference to the probable effects of the small calibre, steel jacketed bullet. He was followed by Major La Garde, Surgeon, U. S. Army, who in 1893 had conducted experiments for the Government with reference to the effect of the Krag Jörgensen and other small calibre rifles and who had been in command of the Reserve Hospital at Siboney in which the wounded of the Santiago campaign were received. His paper was devoted to a discussion of the conclusions accepted by military surgeons prior to the war as compared with his personal experience in Cuba. The third paper was by Captain Borden, Assistant Surgeon, U. S. Army, who, during the war, was on duty at the U. S. Army General Hospital at Key West, to which institution the wounded of the Navy and a considerable number of Army wounded were sent for treatment. His remarks were mainly confined to the later wound manifestations, suppuration, and to a study of the lesions as determined by the Roentgen ray. The last speaker was Captain Munson, Assistant Surgeon, U. S. Army, who had general surgical service at Santiago, both on shore and on hospital ships His remarks were in the nature of a discussion of the theoretical propositions quoted in the paper by Dr. Kober, as compared with his personal experience. During the evening a number of old forms of firearms, extracted bullets, and photographic plates were exhibited. The entertainment was concluded with a stereopticon exhibition by Dr. Gray, of the Army Medical Museum, illustrating conditions disclosed by the Roentgen ray, as fractures and lodged bullets, and also showing the equipment and work of the Army hospital ships

and the military hospitals in Cuba and the Philippines.

At this meeting the subject of wounds by the modern small calibre rifle was discussed from nearly every standpoint and the following conclusions appeared to be reached :

1. That "open order" formation and the use of hasty entrenchments are the chief factors in the prevention of casualties to the combatants proportionate to the great modern improvements in firearms.

2. That the anticipated "explosive effect" of the modern bullet was found to be rare in modern warfare, even when wounds were incurred at ranges theoretically favorable for the maximum destructive action.

3. That non-fatal wounds by the small calibre bullet are accompanied by but slight "shock" to the individual injured.

4. That the ratio of killed to wounded depended entirely upon the question as to whether a vital point was, or was not, struck.

5. That the modern bullet usually caused wounds of soft tissue which were almost subcutaneous in their nature and which hence healed rapidly and kindly.

6. That primary haemorrhage was extremely rare, the vessels appearing to be pressed aside rather than cut by the projectile.

7. That the number of compound fractures was comparatively small and that while comminution of the long bones was the rule extensive comminution was rare.

8. That lesions of the joints were of no great severity and uniformly presented excellent results by simple immobilization without operation.

9. That perforating wounds of the brain, lung or abdominal viscera, if not immediately fatal, were recovered from, without operation, in a large number of instances.

10. That laparotomy, in the field, is not justifiable except in those rare instances where the surgeon is *certain* that death will occur without it.

11. That major operations were not called for; 96.78 per cent of the 1581 wounded requiring only trivial operative treatment, if any.

12. That a surprisingly large number of Mauser bullets lodged in the tissues; and that lodgment could usually be ascribed to long range or ricochet balls.

13. That the hard mantled bullet rarely disintegrates on impact with human tissues.

14. That portions of clothing or equipment are rarely carried by the projectile into the wound.

15. That modern bullets of hard exterior and small calibre, as compared with the old lead bullet, are more humane; rarely permanently crippling such as may be struck and are not killed outright.

16. That the favorable progress and result in the few instances of wounds by shrapnel or bullets of large calibre would seem to show that the much higher mortality of former wars was probably due rather to the non-application of the rules of antisepsis than to the more destructive character of the larger missiles employed.

17. That the subsequent mortality among such wounded as ever reached a hospital was almost entirely a question of application of the principles of antisepsis to the wound and its vicinity.

18. That asepsis in operation is practically impossible to obtain in field hos-

pitals during the rush of work incident to a battle.

19. That operation in the field hospital is inadvisable except when imperatively demanded to save life, or when transportation without operation would be more dangerous than operation under conditions not strictly aseptic.

20. That the location, at suitable accessible points, of thoroughly equipped base hospitals, where conditions of asepsis can readily be maintained, is of great importance.

21. That antisepsis, even more than the modern humane missile, has reduced the mortality and post traumatic complications of the wounded.

Selections.

Otological Experience During the Naval Battle of Santiago on Board the Battleship "Iowa."

The large quantities of smokeless powder used in great guns produces a very evident smoke, which, however, is not so dense as to interfere with the gunner's aim, though the telescopic sights sometimes become so coated with a thin film as to require wiping. The chemical reactions produced in firing have not been thoroughly studied, but the imperfect oxidation in the gun causes the formation of carbonic oxide gas, which is changed to the di-oxide carbonic acid gas, when the breech is opened; but no signs of poisoning by this gas have been noticed. After a few minutes firing the atmosphere of a deck becomes somewhat hazy, and a mildly acid odor is noticeable, somewhat like that caused by the evaporation of vinegar, but the gas is irritating to the conjunctivæ and mucous membranes of the air passages.

During the first three or four days after the fight of July 3, off Santiago de Cuba, there were developed and treated four cases of acute tonsillitis, one of acute bronchitis and twenty-four cases of mild bronchial catarrh. In all of these there was acute rhinitis, and in thirteen cases there was so great dullness of hearing that it was necessary to place a watch against the ear to make the tick audible. One case of conjunctivitis, mild, also reported for treatment. The effect and odor, or taste of the fumes, are very similar to those of formaldehyde gas very much diluted.

The modus of the deafness seems to me to be as follows: The inflammation set up by the gas in the nose and throat causes the closure of the pharyngeal opening of the Eustachian tube; the concussion from the firing of the guns drives in the membrana tympani, forcing out a portion of the air in the tympanum; the closure of the outer end of the Eustachian tube by the swelling of the mucous membrane prevents the ingress of air to equalize the pressure on the membrana tympani, consequently it remains rigid and depressed, and will only vibrate to slow and heavy sounds. On examination it apparently is cup-shaped, and the manubrium shows very plainly. The recovery of these cases seems to me to confirm my view of them. In from two to four days about all the cases were well. The treatment consisted in inhaling Dobell's solution from the steam atomizer, though a little tincture of opium was dropped in the ears to satisfy the desire for direct application to the seat of the most evident trouble. After a mis-step or cough there would generally be a "click," and hearing would be restored and the roaring in the ears would cease. I think the roaring was caused by the steady pressure exerted by the membrana tympani through the chain of ossicles upon the vestibule. The click which preceded the recovery of perfect hearing was caused by the

sudden opening of the pharyngeal end of the Eustachian.

I advance all this only as a theory of one unskilled in the diseases of the ear. There were only two cases of perforation of the membrana tympani ; one of these has recovered with a little dullness of hearing ; the other has only a narrow band of the membrana tympani remaining, but that is the portion to which the manubrium is attached and hearing is fair. There was no particular pain in any of these cases of hardness of hearing ; generally the patients complained of a roaring sound and a feeling of stuffiness, as if the ear were filled with cotton In two or three cases slight dullness of hearing has remained in one or both ears, as in my own case.

The effect of concussion from the firing of the great guns most noticeable was a sense of soreness and constriction across the front of the chest, as if one had been struck a severe blow there with a slender bar of iron or wood. Some complained of quite general muscular soreness of the trunk.

The washing of the decks after a fight seems to immediately remove all the irritating gas in the atmosphere, and the relief is immediate when the hands and face are dipped in water during the action. M. H. Simmons, M. D., U. S. N., *The Laryngoscope, St. Louis*, 1899, vi, 277.

Pied Forcé in Soldiers.

Military medical officers well know the trouble that is occasioned in troops on prolonged marches by a swollen condition of the feet, which has been the subject of many and various interpretations. The actual nature of these lesions has been carefully studied by M. Boisson and M. Chapotot, military medical officers of the French army, who report their results in a valuable paper in the *Archives de médecine et de pharmacie militaires* for February.

The condition itself has been described in turn by Pauzat in 1887, Poulet in 1888, Martin in 1891, and Busquet in 1897. The principal characteristics are the supervention during a march of swelling on the dorsum of the foot, accompanied by pain more or less severe, either occurring spontaneously or provoked by pressure or movement, and functional incapacity. Pauzat's explanation was that of traumatic periostitis, due, in his opinion, to the footgear and leading to exostoses on the second, third, and fourth metatarsals, those on the second being the most frequent ; but he made no reference to crackling or crepitation, symptoms which, according to Boisson and Chapotot, are almost always present. The exostoses, however, he did not find in the earlier examinations, a fact which has considerable bearing on the authors' subsequent explanations. Poulet considered the lesions to be of the nature of rheumatic osteoperiostitis, and in his opinion the footgear was in no sense responsible, though he omits to say whether in his cases any history of traumatism was forthcoming. Martin referred the condition to arthritis and synovitis, as a result of eighteen observations. Finally, Busquet published in the *Revue de chirurgie* a memoir upon ossifying osteoperiostitis of the metatarsals, which he divided into three classes—viz.: 1. Direct primary, immediate, traumatic periostitis due to repeated slight shocks on the fore part of the dorsum of the foot. In this form the furrow in the upper leather of the shoe he considered to play an important ætiological rôle. 2. Indirect traumatic periostitis. 3. Diathetic periostitis.

At the Congress of Hygiene and Demography, held in April, 1898, in Madrid, Stechow, of the Prussian guard, made a communication on fractures of the metatarsals as a cause of swollen feet in soldiers. Concerning the mechanism thereof, Stechow says : If the heads of the first and fifth metatarsals are joined by a straight line, the heads of the others will make a salient angle in the form of a segment of a circle whose centre will be found in the anterior part of the first cuneiform, and whose radius will be about seven or eight centimetres. In the normal position the big toe and its metatarsal bear the shocks coming from in front, but when the inner edges of the

feet are parallel, it is the second metatarsal whose head is in advance, and it is this or the others which will bear the brunt of a shock to the skeleton of the foot coming more or less from the side. Stechow, reasoning from skiagraphical examinations in thirty six cases, arrived at the conclusion that in nearly all instances a fracture of the metatarsals was the cause of the injury under investigation. The left foot suffered more than the right, and the bones fractured were respectively as follows : First metatarsal, one ; second, nineteen ; third, fourteen ; fourth, two. The authors, carrying on their researches from this point, endeavor to show that it is the act of marching to which these accidents, whether fractures or arthritis, must be attributed.

In all the cases examined by them in the great autumn manœuvres of 1898 the second metatarsal was the seat of injury. Occasionally, also, the third suffered. The fracture always occurred in the continuity of the diaphysis, usually at the junction of the posterior third with the anterior two thirds, though at times in the middle. The fractures commonly occurred in a V shape, with the concavity forward. Sometimes the fragments were displaced, the branches of the V being more or less widely separated, and the anterior fragment somewhat deflected externally. In one case only was the fracture comminuted, and in no case was it transverse.

The rapid swelling, remaining for a long time, especially if the subject continues to march, the customary absence of ecchymosis, the support offered by the other metatarsals, and the small dimensions of the metararsal diaphysis render it extremely difficult to elicit crepitation, which, however, may often be obtained by perseverance. An additional sign of the nature of the injury is to be found in pain on pressure over the seat of fracture and at a distance from the articular surfaces. A subjective sign of value in the diagnosis between fracture and arthritis is found in the fact that, in consequence of the support lent by the other metatarsals, it is possible for the soldier to raise himself on tiptoe, which is impossible in arthritis in consequence of the pain occasioned.

As to the mode of production, the authors point out the immobilization of the second metatarsal by remarkably strong ligaments, by its position between the first and third cuneiforms, and also, when regarded from the inferior aspect, by its being locked between the tuberosities of the first and third metatarsals. The first metatarsal, on the other hand, is much more mobile. It moves in every direction on the first cuneiform, while the third is nearly equally movable. The fourth and fifth are the most movable of all. On the march, when the foot is firmly planted, the anterio-posterior curve of the plantar vault tends to straighten itself, and the metatarsals, glide over the trarsal facets. But in the case of the first metatarsal, which in progression gives the final point of support and serves almost exclusively for projection forward, we have to take into account the rigidity afforded by the powerful muscles whose tendons are inserted either at its posterior extremity or on the first cuneiform, thus assuring it the support of a tendinous network. Its own powerful flexors and extensors, moreover, contribute actively to this immobilization of the articular surface, especially as they contract in the execution of the movement.

The transverse arch of the plantar vault, maintained not only by the passive resistance of its ligaments, but also by the action of the abductor of the great toe and the tension of the peroneus longus, is equally subject to the influence of the weight of the man and his equipment. Consequently, any functional inefficiency of these muscles permits the flattening of the transverse plantar curve, and consequently the approximation of the second and third metatarsals to the plane upon which the foot rests. It is thus seen how the two concavities of the plantar arch may be depressed and flattened during the march. If, moreover, the muscles, tendons, and ligaments which fix the first

metatarsal relax under the influence of fatigue, the latter, insufficiently sustained tends to give way, leaving the resistance of the ground to act almost exclusively upon the extremity of the second metatarsal, which, by reason of its length, its comparative slenderness, and its proximity to the inner border of the foot, is found, fixed as it is at its tarsal extremity, in just the position to be broken under the conditions of a lever of the second order.

The authors next report cases and give Röntgen pictures showing the seat of fracture, and conclude that the condition known as pied forcé is always due either to fractures of the metatarsal diaphysis, principally the second, or to arthritis and strains of the metatarsal articulations; also that these conditions are to be attributed to marching in the way in which it is performed by soldiers—that is for a prolonged time and weighted with equipment. On the other hand, when traumatisms, falls, shocks, etc., occur, the type of fracture is modified, often involving the three central metatarsals. Overriding of the fragments and more or less marked articular lesions are often superadded, and when that is the case the effect is such as to render the subject unfit for military service. The "exostoses" described by Pauzat, (which were not found by him in the earlier examinations) are considered by the authors to be simply the callus formation at the seat of fracture, such as they themselves show, and which had hitherto been wrongly interpreted.

The condition described and explained by the authors is naturally not confined to military service. Many obscure cases of injury to the foot without any history traumatism, in civil life, will no doubt receive elucidation by these researches. *N. Y. Med. J.*, 1899, lxix, 783.

Medical Department at Manila.

Surgeon-General Sternberg made public on May 13th a report by Major Henry Lippincott, Chief Surgeon at Manila, of the operations of the Medical Department in the Philippines, from February 4th to March 31st. With the former date began a prolonged series of engagements with the Filipinos, and from that time to March 31st, 182 United States soldiers were killed or died from wounds received in action. The number of wounded during this period not included in this number was 847. It is noted that "the effect of the firing was marvelous on the sick," many men who were hardly considered well enough for duty, leaving the hospital for the firing line. The medical staff were prepared for all emergencies. The first-aid packages proved of the greatest possible value. "Litters, pouches, and medical and surgical chests were in readiness, easily prepared articles of food, stimulants, and water were on hand, and the ambulance company did excellent service." The signal corps, by putting the hospitals in communication with the troops at the front, make it possible to send supplies at a moment's notice. The hospitals were supplied with an abundance of everything essential, "which was simply astonishing when the great distance from the United States was taken into consideratisn." The Corregidor Hospital, which is used for convalescents, has been of great benefit. Cases of typhoid and malaria have done well there, but patients suffering from dysentery and diarrhea, though improved, have rarely been cured. Rheumatism is obstinate in the climate of the Philippines. The total uumber of cases of smallpox up to March 31st was 151; deaths 77. There were 85 cases of varioloid with no deaths. There is "every reason to hope for a cessation of smallpox." The food-supply has been good. Two hundred and fifty-six wounded Filipinos, among whom were four women, were received into the hospital up to March 31st. Of these forty-five, including one woman, died. "These people receive the best of care and treatment and seem to appreciate the efforts made in their behalf." Among the Filipino wounded suppuration is the rule, whereas, among our soldiers it is the exception. Many causes account for the condition in the former, the chief being infection before coming into the hands of our surgeons. They have, moreover, an inordinate propensity to tear off dressings and finger their wounds when opportunity offers." *Med. News, N. Y.* 1899, lxxiv, 665.

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THE MILITARY SURGEON

A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Captain, Medical Department, U. S. A.; Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. II. WASHINGTON, D. C., JULY, 1899. NO. 5.

Original Articles.

VENTILATION AND HEATING.*

BY W. F. LIPPITT,
Captain and Assistant Surgeon, U. S. A.

The joint subject "Ventilation and Heating" was selected by me because so closely united in practice, that no system of winter ventilation fails to take into consideration the proper heating of the fresh air supplied, and rightly so, because very few people will tolerate a draft of cold air blowing on them in winter indoors. About the greatest advance that has been made in our Army in recent years has been in the line of Hygiene by improvements in the sleeping quarters of the enlisted men. And yet there are very few buildings in our Posts occupied by enlisted men in which any attempt has been made at a proper system of ventilation. The proper attainment of this object has of late years become so much of a mathematical study in the effort to obtain an accurate knowledge of what is accomplished that the inside of a recent work on hygiene looks like a treatise on trigonometry. I will however burden you with very few figures; only giving enough to show that the statements I make to you are not matters of estimation or conjecture, but capable of demonstration with mathematical accuracy. It is a matter of history with which you are all familiar that during the civil war, and in most wars, more deaths are caused by disease than by wounds, but it will probably astonish not a few to hear the amount of disease and death ascribed, and justly so, too, to a lack of proper ventilation.

I have used this term "Proper Ventilation" several times, and should give you some idea of what I mean to imply. It is defined by one of the latest writers on hygiene as the removal or dilution, by a supply of pure air, of the pulmonary and cutaneous exhalations of men or animals, and of the products of combustion from lights in ordinary dwelling houses; to which must be added, in factories, dust from industrial processes, and in hospitals, the effluvia which proceed from the persons and discharges of the sick. Let us see first what are these injurious substances, and what is the source and quantity of each.

Average air contains about 20 per cent of oxygen, 79 per cent of nitrogen, a varying amount of watery vapor, and organic matter, and 4 parts in 10,000 of carbon dioxide. Of these ingredients which are mostly mixed, you all know

*Read before the Lyceum at Washington Barracks, D. C.

that the oxygen is necessary to sustain life, while the nitrogen and carbon dioxide are inert matter as far as the body is concerned. It is in the organic and suspended matters that the chief danger lies, but except in the air of rooms or hospitals these matters are innocuous. Let us see what takes place when the air is drawn into and returned from the lungs. The oxygen is diminished one-fifth; the carbon dioxide increased one hundred times; the air is warmed and is saturated with moisture, and it contains a variable amount of organic matter, the quantity and nature of which is undetermined. Opinions differ as to the injurious ingredient of this expired air. I was taught that it was the organic matter, and I still believe so. Recently some very eminent men have claimed that it is the CO_2. However this may be, we know that any animal placed in a close room, and kept without fresh air will die; e. g. the historic "Black Hole of Calcutta," where 146 persons were confined overnight in a space of 18 feet square, with two small windows, and only 23 were alive the next morning, most of whom died afterward of typhus fever. The tendency that the air of a crowded room has to become saturated with moisture has also a great deal to do with the feeling of discomfort. As the amount of CO_2 is the most easily determinable of these impurities, it is the ingredient upon which we base our calculations of the amount of fresh air required. It has been found by actual experimentation that an adult man expires about 0.6 cubic foot of CO_2 per hour when in repose, and experience has proven that an amount of carbonic acid impurity of over six parts in 10,000 is injurious when this impurity has come from respiration. Remembering that average air contains 4 parts in 10,000 of CO_2, you will see that the allowable additional CO_2 is only 2 parts in 10,000, or 0.2 cubic foot in each 1,000 cubic feet; and therefore each person will vitiate 2,000 cubic feet of air in each hour, or in other words, we must supply 3,000 cubic feet of fresh air per hour for each man.

The next most important source of impurity is in the source of illumination of the room. In our service one burner consuming four ounces of kerosene oil is allowed for each hour for ten men or fraction thereof. Estimating from the oxygen consumed, CO_2, moisture and heat produced, Firth & Notter state that this amount of oil vitiates an amount of air equal to that vitiated by 14 adults. Or the illumination for each man vitiates as much air as 1.4 men, or in other words, to replace the air vitiated by this lamp 4,200 feet of fresh air must be introduced every hour. In addition to these sources of impurity, each man's clothing, shoes, etc., are kept in his squad room, and we have to take into account an indefinite amount of impurity derived from emanations from dirt brought in from out of doors on their shoes and working clothes. To these we must add the uncertain amount of effluvia from the water closets and wash-rooms that are now in the same buildings with the sleeping rooms of the men. It is true that there is no reflux of air from the sewer if the plumbing is properly constructed, properly ventilated and kept in proper condition. It is also true that the air of a typically constructed, typically ventilated, typically flushed sewer is free from any impurities. But how often are such things kept in a typical condition! As a matter of fact the air of most sewers while containing

fewer micro-organisms than the air of the room, may include in this number the germs of any disease, excreta from which have been discharged into it. Particles of the sewage may be splashed upon the walls, dry there, and liberate their contained bacilli. If these micro-organisms are pathogenic, there is a risk of their producing their peculiar disease. For this reason it is a fundamental principle in hospital construction that the water closets must be separated from the sleeping apartments by a corridor allowing cross ventilation.

Lastly, in hospitals, and in quarters where sick men are, we find the contagia of different diseases. These may be entirely removed by proper ventilation, but in an unventilated room are particularly active although we cannot estimate the exact amount and virulence of each.

We do not need to take into consideration outside sources of impurity, because as a rule our posts are located at points free from such.

Having found the sources from which impurities find their way into the air of our rooms, let us now see what effects are produced by them. First, when the vitiation is the result of respiration the immediate effects are a feeling of oppression and rapid breathing followed by headache, nausea, loss of appetite, and general malaise. A man after sleeping in a badly ventilated room will wake up with a headache, without appetite, languid, and feeling the need of a stimulant. I have often heard one of the older members of our Corps express the opinion that much of the chronic alcoholism of the service is due to this very thing. As a later result we find a marked increase in the amount of disease of the respiratory organs, nasal and pharyngeal colds, follicular tonsillitis, laryngitis, bronchitis, pneumonia and phthisis. It is safe to say that nearly all so called "colds," or at least the vast majority are due to this cause. Statistics show that the ratio of phthisis and other disorders of a similar character increases with the crowding and foulness of the air, e. g. : in Dundee being at the rate 3.26 per 1000 in houses of four rooms and upwards, 5.52 in houses of three rooms, in two roomed houses, 6.41, and in one roomed houses 7.44. The same result is found with animals, as I expect most officers know, and would advise any officer who has much sickness among the horses of his command to investigate the ventilation of his stables. In addition to these diseases which are directly due to lack of fresh air, the whole system being below par, the man is so much more liable to contract any of the specific infectious diseases as measles, diphtheria, etc., to say nothing of the vastly greater danger of their spreading when one case is present in a close ill ventilated room. This is noticeably so also in the surgical diseases, and to lack of ventilation, and overcrowding, as well as to ignorance of asepsis and antisepsis must be ascribed the large amount of suppuration, erysipelas, pyaemia and hospital gangrene that occurred in the hospitals during the Civil War.

Air, vitiated by the products of combustion of illuminating gas or oil, produces at once headache, and oppression, later anaemia, general want of tone and a tendency to colds and bronchitis.

Besides the general debility and greater liability to infection produced by effluvia from sewers and house drains, three diseases, diarrhoea, typhoid fever and diphtheria have been supposed to

be directly due thereto. While it is possible that typhoid fever and diphtheria may be produced by micro-organisms that may be found suspended in sewer air, I believe that this is so seldom the case that I always accept such a causation *cum grano salis*. As a matter of fact among men who work in sewers enteric fever is no more common than in the general run of humanity. Diarrhoea is unquestionably at times caused in susceptible persons by inhaling sewer air.

As I have already told you, the amount of CO_2 in the air is taken as the gauge of its contamination, and the allowable CO_2 impurity is put down as 6 parts in 10,000: we can measure this exactly by testing a given quantity of air with a known solution of lime or baryta water, but for your purposes the rule given by Dr. De Chaumont for estimation by the smell is sufficiently accurate. His classification is as follows: viz:

1. Fresh or not differing sensibly from the outer air. Here the temperature is moderate. Aqueous vapor shall not exceed 4.7 grains per cubic foot. CO_2 shall not exceed the amount in the outer air by more than two parts in 10.000. Ventilation here is good.

2. Rather close. Vapor in a cubic foot of air exceeds 4.7 grains. CO_2 in excess over outer air, ratio reaching 4 parts in 10,000.

Ventilation here ceases to be good.

3. Close. Vapor exceeds 4.7 grains per cubic foot. CO_2 in excess over outer air to the amount of 6.7 parts in 10,000.

Ventilation here begins to be decidedly bad.

4. Very close. Vapor here reaches 5.1 grains per cubic foot. CO_2 in excess over the amount in the outer air beyond 9 parts in 10,000.

It must be remembered that the keenness of the sense of smell diminishes very rapidly and returns very slowly, so that to make this test accurately it is necessary to have been for sometime in a fresh air and to come directly into the room to be examined.

Concluded in August number.

Selections.

Bullet Wounds of Intestines.

Taylor asks: "Are there any early differential symptoms that are present in intestinal lesions and absent when no such wounds exist?" He believes that we can say in reply to this question, that abolished peristalsis is one of the most competent and valuable signs, the more so as it is immediately appreciable. If we are correct in inferring that this is uniformly present in an early stage of intestinal lesions, it is probably the only early symptom on which we can confidently rely. Whether it can exist as an early complication in other conditions is a probable question, but he thinks it must be so rare that he does not abandon his faith in this as a constant diagnostic sign. Second only in importance to this is the occurrence of muscular rigidity, but this may occur in other conditions, when there is sudden incision into the peritoneal sac. Shock, if prolonged, points to visceral lesions and is due to hemorrhage or extravasation of visceral contents into the cavity. If appearing some hours after the penetrating wound, and progressive in character, it points to extravasation or hemorrhage, but if delayed ten or twelve hours, it probably means septic peritonitis. Above all, however, nothing but an exploratory incision will suffice to prove the non existence of perforation. Ref in *J. Am. M. Ass.* 1899, xxxii, 1435. Orig in *Va. M. S. M.* June 9.

Mortality from Disease in the Spanish-American War.

The report of the Surgeon-general of the Navy, for the year of the Spanish war shows even better health than in times of peace.

To show what an advance this means, it is only necessary to compare the account of the sickness of the British fleet in the West Indies in 1726: out of a force which never exceeded 4,750 persons, two flag officers, 7captains, 50lieutenants, 4 000 men died in one year of various forms of sickness.

A statistical comparison of the Spanish War with other wars would be of interest.

The accompanying table prepared by Dr. Mosher, of Boston, of the principal wars of the century shows the relative position of the war in the mortality from disease in the list of other wars. The table shows the percentage of mortality in campaigns by the French, English and Americans in tropical countries.

DEATHS FROM DISEASE.

Walcherian (E.), 1809	23.33
West Coast Africa (E.), 1824	69.00
Mexican (U. S.), 1846	10.00
Mexican U. S.) 1848	10.00
Crimea (E.), 1854	23.00
China (F.). 1862	11.80
Civil War (U. S.), 1862	4.00
Civil War (U. S.), 1863	6.00
Franco-Prussian (G.), 1870-71	1.43
Cape Coast (E.), 1873	17.30
Afghanistan (E.), 1878-80	9.37
Egypt (E.), 1882	7.21
Soudan (F.), 1883-86	28.00
Madagascar (F.), 1895	30.00
Chino-Japanese (J.), 1895	1.48
Spanish-American (U. S.)1898-99	2.50
Manila Expedition (U. S.) 1899	.80

Bradford, (E. H.) *Phila. M. J.*, 1899, iv, 42.

Water Kefir: A Hygienic Drink for the Army.

Kefir made with milk is the constant beverage of the inhabitants of the Caucasus, and a modified kefir made with water, sugar, and kefir grains produces in six days, a sparkling, refreshing drink containing 1.4 grammes alcohol, 16 of sugar, and 2.10 of carbonic acid to the litre, resembling cider in its appearance, with an acid, slightly vinous taste. The expense is less than a sou (about one cent) a litre, and Surgeon-Major Carteret, of the French army, has found it a most excellent and popular hygienic, tonic, and appetizing drink for the soldiers in his regiment. He observes that the kefir is not a good culture medium, and is therefore healthier than the water from which it is made. The formula is two litres of water to one litre of kefir grains and fifty grammes of brown sugar. Stir in an open pitcher. After three days, stir again, strain, and bottle, fastening the corks as for champagne. Drink, afer three days in the bottle. The kefir grains can be used again and again, and if well dried can be put away to keep for months.—*N. Y. Med. J.* 1899, lxix, 529.

The Accidents from Vaccination--How to Prevent Them.

Isadore Dyer, M. D. (*Charlotte Med. Jour.*). First of all, the area to be inoculated is thoroughly washed with soap and water, rinsed until no soap remains, then sponged freely with alcohol or ether.

Two separate inoculations are made with two separate points. Then a layer of borated cotton is placed over the wound, and either rubber tissue or a plaster holds the cotton in place. On the third and until the seventh or eighth day, the wound is watched. When the vesicle appears, it is broken, the surface washed with bichloride solution, or a 5 per cent carbolic acid solution, and an antiseptic dressing applied.

This procedure has been adopted among persons who have been exposed at the time or subsequently to smallpox.

If this or a like method of cleanliness were employed both in private practice and in public offices, we believe that the accidents of vaccination would attract less public notice, because there would be none to be observed. *Charlotte Med. J.*

Inoculation for Enteric Fever in the British Army.

The British War Office has decided that soldiers proceeding to military stations abroad where enteric fever is rife shall be given the opportunity of the process of inoculation against the disease, which has been revived by Pro-

fessor A. E. Wright, the professor of pathology at the Netley Military Hospital. Professor Wright, as the result of some experiments considers that such inoculations exercise a protective influence against the disease; considering the terrible scourge which enteric fevers is known to be to the young soldiers of all armies serving in hot climates, he will, undoubtedly, have rendered humanity great service if his views prove to be correct. At the present time many people consider the experiments too small in number and inconclusive in result to warrant very sanguine expectations being based upon them. Still, they have received official endorsement to the extent we have indicated.—*Phila. Med. J.*, 1899, iii, 1390.

The Treatment of Burns.

According to the *Gazetta degli ospedali e delle cliniche* for March 23, Reclus extols the following ointment:

R Iodoform from 7½ to 15 grains.
Antipyrine, 75 grains.
Boracic acid, 75 grains.
Vaseline, 600 grains.
M.

Wertheimer applies to burns, especially in children, the following liniment:

R Thymol, from 1½ to 2 grains.
Limewater, 1,500 grains.
Linseed oil, 1,500 grains.
M.

Starr, to allay the pain and prevent the formation of bullæ, applies instantly to a superficial burn the following ointment:

R Perchloride of iron, 90 grains.
Vaseline, 360 grains.
M.

Haas uses an ointment made by dissolving from 150 to 300 grains of aristol in 600 grains of lanolin and the same quantity of vaseline.

Landolt and Gygax employ the following formula:

For burns of the first degree:

R Cocaine hydrochloride, 22½ grains.
Vaseline, 150 grains.
Distilled water, 150 grains.
Lanolin, 45 grains.
M.

For those of second degree:

R Cocaine hydrochloride, 22½ grains.
Salol, 75 grains.
Vaseline, 375 grains.
M.

And for those of the third degree:

R Europhene, 22½ grains.
Olive oil, 52½ grains.
Lanolin, 225 grains.
Vaseline, 450 grains.
M.

This ointment is said to be specially serviceable in burns of the eyelids. *N. Y. Med. Jour.*

Army Hospitals at Manila.

In a report on hospital accommodations, made under date of January 22d to the surgeon-general, Major Henry Lippincott, surgeon-in-chief at Manila, says that the First Reserve Corps Hospital, which is the largest hospital there, contained at that time five hundred and eighty-three patients. In addition to the main building there is a tent ward, of one hundred and eighty beds, of which, however, few were in use at the time of writing. A small building, furnished by the Red Cross Society and called the Red Cross ward, is conducted in connection with the hospital, affording space for about thirty beds. In the Second Reserve Corps Hospital there were one hundred and thirty-three cases, and it had a daily average during November and December of one hundred and seventy-seven cases. The district hospital at Cavite has furnished sufficient accommodation for the troops garrisoned there. Major W. O. Owen, brigade surgeon of volunteers, has established on Corregidor Island a convalescent hospital, with accommodation for one hundred and seventy patients, which number can be increased to four hundred or more, should it become necessary. There are buildings on the island for the accommodation of seventy-five beds, and space sufficient for the erection of enough tents for three hundred and twenty-five additional beds. There were one hundred and sixty-eight sick on the island at the time of the report. *Med. Rec.*, N. Y., 1899, lv, 542.

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THE MILITARY SURGEON

A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Captain, Medical Department, U. S. A.; Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. II. WASHINGTON, D. C., AUGUST, 1899. NO. 6.

Original Articles.

VENTILATION AND HEATING.*

By W. F. LIPPITT,

Captain and Assistant Surgeon, U. S. A.

Continued from August number.

All ventilation depends upon (1) the diffusion of gases, and (2) the entrance and exit of air from and into the outer air. By the diffusion of gases we mean the property by which two gases in contact become thoroughly mixed. It is owing to this property that the whole of the air of the room can be taken into account in calculating the necessity for, and the amount of fresh air to be admitted. But it must be understood that cubic air space will not take the place of ventilation. No matter how large the room it is only a matter of time when the air becomes vitiated without ventilation. In a house heated by steam, by direct radiation, as are most of the new barracks, and with practically no provision for outlets, the room in winter becomes almost a closed chamber, the only outlets being the cracks about the doors and windows, and the walls themselves, when a strong wind is blowing; so that the air of the room must soon become extremely offensive, the time required depending of course on the cubic capacity of the room. It has been found that a change of the air of a room oftener than 5 or 6 times per hour by natural ventilation or even by the less efficient artificial methods causes draughts that are too disagreeable to be borne by even the healthiest persons. Knowing that the amount of fresh air required per man per hour is 3,000 cu. ft., we can easily fix the necessary capacity of the room. It has been customary to reckon on this basis, as necessary, in the soldiers' barracks, 600 cu. ft. per man; in houses with a mixed family, 1,000 cu. ft. per person; and in hospitals, not less than 1,200 cubic feet. Experience has shown that a greater height than 12 feet is of no value and therefore the floor space must be 50.84 and 100 square feet respectively.

Having now determined the cubic space required and the amount of fresh air required, what means can we adopt for aiding the natural ventilation, of which I have spoken, in purifying the air of the room. The method which was adopted at Fort Leavenworth by order of the Commanding Officer, of

emptying the barracks, opening the windows and allowing the wind to blow through, is very good as far as it can go, but the air is only changed at the time and when the room is re-occupied will soon become vitiated again. In preparing any plan for the ventilation of barracks, the second portion of the subject heading of this essay must be taken into consideration, that is, Heating. Where expense is a less important question than with us, there are various ways of solving this problem, e. g.: extraction by means of shafts at the bottom of which the air is heated, or by means of fans or propulsion by fans, providing an outlet for the air thus driven in. It must be remembered that to change the air 5 or 6 times per hour without creating too great draughts, the air before admission should be heated and admitted in such a way as to cause the incoming air to be diffused through the room before coming in contact with the person.

I will ask your attention 1st. to a few suggestions as to a modification of heating arrangements found in most of the quarters heated by steam. In the new hospital there is a system which is well worthy of your study. Fresh air is admitted into channels leading through the radiators and in passing through is warmed and directed towards the ceiling. Outlets for foul air are provided by rectangular shafts opening at the floor and extending upward to a common outlet on the roof. This outlet is placed near the floor 1st. to compel the incoming fresh air to become thoroughly diffused through the room before passing out, instead of passing out directly as it would if the opening were at the top; 2nd, because the organic matter is heavier than the other ingredients of the foul air and is therefore slightly in preponderance near the floor.

Now for my criticism. No proper provision is made for insuring a draught through these outlet tubes. For this purpose the steam pipes going to the upper floor could easily have been utilized, or, if necessary, a coil of pipe could have been placed in these tubes. Furthermore, the fires are allowed to die down about 11 p m., and are very low from that time till day-break, a time when ventilation is especially necessary, all the men being in their bunks, with windows and doors closed. I would suggest that in all barracks fresh air outlets be provided by closed tubes leading to the outer air and opening under the radiators. Such inlets have been provided in the barracks occupied by Co's "B" and "F" 20th Infantry at Fort Leavenworth, but they have been carefully closed up. The radiators should be jacketed, and openings provided in the top, to direct the fresh air toward the ceiling. Outlets should be provided by tubes similar to those in the hospitals with the modification suggested. I am fully aware that in addition to the expense of putting in this system of ventilation it would require an additional number of radiators, and there would be a considerable increase in the expense of heating the rooms, but I believe it would be more than repaid by the increased health of the command. In lieu of this I would suggest the utilization of the lamps used for illuminating, as sources of heat for extracting purposes, by putting over them a hood with a central pipe leading through the roof, depending upon natural openings to provide necessary inlets. While this would not be sufficient it would be comparatively inexpensive and a step in the right direction, eliminating

the foul air produced by the burning of the oil as well as a considerable portion of the remaining vitiated air. When the steam plant is being placed in a building for the first time much better results can be obtained by placing the radiators in the basement and conducting the heated fresh air through flues to different rooms.

Some of the officers' quarters are provided with furnaces; these furnish very good ventilation if it be remembered that the inlet pipe must be open, the stove not red hot, and when so, Co gas is liable to pass through, and finally the outlet registers must be left open. It is hardly worth while for me to go into a detailed account of the different methods of combined heating and ventilation, nor have I the time or space to devote to them. I will therefore close with an epitome of the comparative advantages of the different methods, as used in a number of city schools, given by Messrs. Firth & Notter in their recent work on hygiene.

OPEN FIRES.

Advantages—

1. More cheerful.

2. First cost much less than hot pipes system.

3. Keeps air fresher than hot pipes, owing to draughts up chimney.

4. So far as the Dundee schools are concerned, the temperature in open fire schools was higher than those heated by hot pipes.

5. The rooms of these schools will probably need painting less frequently than those heated by other systems.

Disadvantages—

1. Greater labor in service.

2. Slightly greater annual cost than stoves, or steam pipes, or large hot water pipes.

3. Unequal distribution of heat.

4. Air more highly charged with micro organisms.

STOVES.

Advantages—

1. Smallest first cost.

2. Least annual cost.

3. Probably more effectual heaters than open fires.

Disadvantages—

1. Greater labor in service.

2. Require more attention than open fires.

3. More liable to smoke than open fires.

4. More liable to get out of repair than open fires.

5. Not so cheerful as open fires.

HOT PIPES.

Advantages—

1. Less labor in service than either open fires or stoves.

2. The class is not disturbed as in the case of the mending open fires and stoves.

3. More equal distribution of heat.

4. Air less charged with micro organisms than when open fires are used.

5. On the whole the annual cost is probably slighty less than with open fires, but more than with stoves.

Disadvantages—

1. Not so cheerful as open fires.

2. First cost much more than in case of open fires or stoves.

3. Air not so fresh as with open fires.

OF HOT PIPE SCHOOLS.

1. Small high pressure pipes are cheaper in first cost than large low-pressure pipes.

2. In those schools examined, the air was better in rooms heated by small high pressure pipes than in those heated by large low-pressure pipes.

3. It takes longer to get up heat with large than with small pipes.

4. Small pipes are less obtrusive in the rooms.

MECHANICAL VENTILATION.

Advantages—

1. Much greater purity of air as regards all the constituents.

2. Efficiency of ventilation much more independent of the weather; whereas with other systems the ventilation is worse when most needed.

3. The schools are warmer.

4. More equal distribution of heat and of fresh air.

5. Very effective in diminishing the number of micro-organisms, not only at the time the mechanical ventilator is in operation, but also for a long time after it has been stopped.

6. Reduces draughts to a minimum. In fact the mechanical system heats and ventilates far better in every respect than any other system, and is, therefore, far more conducive to health and comfort.

Disadvantages—

1. Greater first cost.

2. Greater annual cost (except in case of very large buildings.)

Selections.

The Relation of the Soldier's Dress to Heat Apoplexy.

Lieutenant-Colonel McCartie, of the Indian Medical Staff, contributes to the *Indian Medical Gazette* for June a most interesting communication on The Cause and Prevention of Heat Apoplexy in the Army, and one which will have special force for us in regard to our troops now serving in the tropics.

Colonel McCartie first combats, and we think satisfactorily, Dr. Sambon's views, published over a year ago in the *British Medical Journal*, that "heat, apoplexy" is not caused by heat, but is an infective disease. He points out that soldiers and civilians work under such different conditions as to dress as to account fully for the prevalence of the disease among soldiers, while civilians working under a higher temperature are almost exempt. The latter wear a thin twill cotton shirt, light, loose cotton trousers, cool socks, cool light shoes, a light gossamer coat, worn open, and a thick pith hat, coming down the neck, and carry a thick umbrella; while the soldier wears clothing unnecessarily warm and so buttoned up and strapped down that the air can not circulate about his body, the evaporation of the perspiration can not go on, and thus, Nature's heat-regulating mechanism is thrown out of gear. The consequences are distress, fatigue, exhaustion, fever, and heat apoplexy!

Colonel McCartie's observations are based upon considerable experience, especially during the hot-weather campaigns of 1895 and 1897. He noticed that most of the men attacked by heat apoplexy were very warmly clad, most of them wearing flannel shirts, and many even thick woolen undervests as well.

One piece of evidence recorded is very striking. In a frontier campaign in 1897 sufficient coolies could not be obtained, and part of the baggage had to be carried by native soldiers in plain clothes. Before the end of the march, says Colonel McCartie, nearly all the men in the ranks were utterly exhausted, and some of them had heat apoplexy, while their comrades doing duty as bearers and carrying a much heavier weight, but dressed in their own loose, light, rational dress, were not the least distressed.

Colonel McCartie condemns the belts and straps which go over the coat as the worst part of the soldier's dress, and advises doing away with them all. He recommends a loose Norfolk jacket with four pockets, loose trousers with two pockets in front and two behind, and a loose twil cotton shirt with two pockets.

To these might, if necessary, be added a light knapsack capable of carrying the contents of the haversack and the greater part of the ammunition. A hook could be fastened in the jacket for the water bottle, and a frog attached for the bayonet.

The accommodation afforded by the pockets would do away with the necessity for belts, straps, and pouches; while on the march, the knapsack would accommodate all the ammunition and food needed.

To sum up, the rational attire for soldiers serving in tropical climates would be light, loosely made garments of very porous material, and an entire absence of straps, belts, pouches, etc. The soldier is not dressed in parade order for fatigue duty and campaigning is fatigue duty in the highest degree. *N. Y. Med. J.*, 1899, lxx, 128.

Arsenious Acid as a Preventive of Yellow Fever.

I. Da Rocha.—Dr. J. P. do Rego Cesar noticed that the non-acclimated persons in Brazil, who had occasion to take arsenic for any reason, were not molested by yellow fever, and he commenced to administer it as a preventive, with most satisfactory results, confirmed by the experience of other local practitioners Da Rocha reports, in this article, the result of daily prophylactic doses of half a milligram of arsenious acid administered during the summer season to the entire force of a certain factory, over 200 men, for the last five years. The men are frequently changing, are mostly unacclimated, live in unhygienic surroundings and infected localities, and take no precautions against contracting the disease. During the terrible epidemic of 1894, three of them were attacked but soon recovered; exceptionally light cases among the prevailing mortality. In the epidemic of 1896, twenty men contracted the fever a few days after their admission to the factory, each having received only a few doses of the arsenic. But the effects were evident in the benignity of the cases, all dismissed from the hospital in from four to six days, while a couple of extra hands only rarely employed and thus not receiving the arsenic regularly succumbed to the disease. There have been no cases in the factory since 1896, although yellow fever has scourged the city again and again, and formerly ravaged the factory. Another group of 150 men, to whom the prophylactic doses were regularly administered, have also escaped without a single case. Persons just arriving are advised to repeat the dose three times a day the first week, twice a day the second, and thereafter once a day, No one thus treated has contracted the disease to date. J. Am. Med. Asso., 1899, xxxiii, 221.

Some Remarks on Typhoid Fever Among Our Soldiers During the Late War With Spain.

Victor C. Vaughn, in the July number of the *American Journal of the Medical Sciences*, says that he concludes from investigations made by Drs. Reed, Shakespeare, and himself that a regiment thoroughly infected with typhoid fever does not lose the disease when it changes its locality, even when it goes to a perfectly unobjectionable site and leaves all its sick behind. It is altogether probable that the clothing, blankets, and tentage of the men become thoroughly infected with the typhoid bacillus. When a regiment becomes saturated with typhoid fever change in location alone is not sufficient to get rid promptly of the disease. It is believed in such a case that it is necessary to thoroughly disinfect clothing, blankets, tentage, etc. If a regiment is moved before the infection has become marked, typhoid fever may disappear or at least decrease. Apparently a sea voyage of some days or weeks might rid a command not widely infected with typhoid fever of the disease A regiment thoroughly infected with typhoid fever does not lose the disease or lessen the number of cases after a short sea voyage. This was illustrated by the Nineteenth Infantry, which after becoming thoroughly infected with typhoid fever was transported to Porto Rico. The progress of the disease apparently was not in the least retarded by this voyage. *Medical Age*, 1899, xvii, 551.

The First-Aid Package in Military Surgery.

Dr. Senn summarizes his views as follows :

1. First aid packages are indispensable on the battlefield in modern warfare.

2. The first-aid dressing must be sufficiently compact and light to be carried in the skirt of the uniform, or on the inner surface of the cartridge or sword belt, to be of no inconvenience to the soldier or in conflict with military regulations.

3. The Esmarch triangular bandage is of great value in the school of instruction, but in the first aid package it is inferior to the gauze bandage.

4. The first-aid package must contain in a waxed aseptic envelope an antiseptic powder, such as borosalicylic powder, 2 sterlized safety-pins wrapped in tinfoil, and between this package and the outside impermeable cover, 2 strips of adhesive plaster 1 inch wide and 8 inches long.

5. The first-aid dressing must be applied as soon as possible after the receipt of the injury, a part of the field-service which can be safely entrusted to competent hospital-corps men.

6. The first-aid dressing, if employed behind the firing line, should be applied without removal of the clothing over the injured part and fastened to the surface of the skin with strips of rubber adhesive plaster, the bandage being applied over and not under the clothing.

7. The first-aid dressing must be dry and should remain so by dispensing with an impermeable cover over it, so as not to interfere with free evaporation of the wound secretion.

8. The first-aid dressing should not be disturbed unnecessarily, but any defects should be corrected at the first dressing-station.

The United States' Example in the Matter of Hospital Ships Followed.

According to the *British Medical Journal* for April 29th, the example given by the United States during the Spanish-American war of fitting out an ambulance ship under the Red Cross regulations has been followed in Austria. The vessel has been named the *Graf Falkenhayn*, after the first president of the Austrian Red Cross Society. The new steamer, which has an estimated speed of nine knots, has an isolated wing for infectious cases, and two bath rooms, and is provided with all modern hygienic requirements. Its equipment, which is now complete, includes four life-boats and two disjointable rafts. The Austrian Red Cross Society is the first institution of the kind in Europe which possesses a permanent naval ambulance. *N. Y. Med. Record*,

Prize Essay on the Tropical Army Ration.

Appreciative of the necessity for proper food for the men of the army and navy serving in tropical climates, Dr. Louis L. Seaman, late major-surgeon First Regiment U. S. Volunteer Engineers, has offered through "The Military Service Institution of the United States" the sum of $100 in gold (or a medal of that value as the successful competitor may elect) for the best thesis on "The Ideal Ration for an Army in the Tropics." This competition is open to all commissioned medical officers of the army and navy (volunteer or regular). The executive council of the Military Service Institution, at its meeting of the 14th inst. at Governor's Island, adopted a resolution of thanks to Dr. Seaman for his handsome offer, and decided that all papers on this subject should be submitted by March 1, 1900, and that Colonel Weston, acting commissary-general, Lieut.-Col. Charles Smart, deputy surgeon-general, and Lieut.-Col. William E. Dougherty, Seventh United States Infantry, be requested to act as the board of award. *Med. Record*, N. Y.

German Soldiers Gain in Weight.

Mueller of Berlin is authority for the statement that the German soldier gains on the average nine pounds weight during the first three months of his service. A portion of this is lost during the summer maneuvers, but at the close of the twelve months he weighs on the average 4.5 pounds more that upon his entrance into the service. *Med. News, N. Y.*, 1899, lxxiv, 436.

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For Toothache.

Dauchez (*Progres medical*, May 20th) recommends:

R Hydrochloride of cocaine, 1½ grain.
Menthol, 15 grains.
Crystallized carbolic acid, 15 grains.
Olive of cloves, 5 drops.
Camphorated alcohol, 120 grains.
M.

Or—

R Orthoform, 15 grains.
Carbolic acid, 15 grains.
Camphor, 60 grains.
Chloral hydrate, 60 grains.

The tooth cavity to be dried and then filled with cotton impregnated with either of these preparations.—*N. Y. Med. J.*

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THE MILITARY SURGEON

A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Captain, Medical Department, U. S. A.; Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. II. WASHINGTON, D. C., SEPTEMBER, 1899. NO. 7.

Selections.

The Surgery of the Spanish War.

At the conclusion of the president's address, American Surgical Association, a symposium on "The Surgery of the Spanish War" was taken up. The first paper was read by Dr. Nicholas Senn of Chicago, and was entitled, "The First-aid Package in Military Surgery." He stated that two things were brought out clearly during the Græco-Turkish War, namely, the value of a first-aid antiseptic occlusive dressing in the prevention of wound infection, and the importance of immediate immobilization of compound gunshot fractures. He suggested the following first-aid package for field use and emergency work: Two pieces of lintin, a form of compressed cotton, four inches wide and sixteen inches long, sterilized and folded twice lengthwise; a teaspoonful of borosalicylic powder in a small waxed aseptic envelope; between them a piece of sterile gauze, forty-four inches square, with two safety pins, folded to corresponding size with the lintiu compress; all of these articles wrapped in tin foil; two strips of rubber adhesive plaster an inch wide and eight inches long, the whole to be sewed in an impermeable canvas or linen cover. In using the package the powder is applied to the wound, the lintin used as a compress being held in place by the strips of adhesive plaster, and the gauze bandage placed over it. If two wounds are to be dressed at the same time, as is usually the case in modern warfare, the contents of the package are equally divided and used, which can be done without materially impairing the efficiency of the dressing. The slight hemorrhage in wounds inflicted by the small-caliber bullet will soon saturate a part of the dressing, which by evaporation will soon convert the antiseptic powder and the cotton into a dry antiseptic crust, the very best protection for the wound against infection. Many military surgeons have expressed themselves recently as being opposed to the employment of the first-aid package by any one except medical men. This position the speaker thought will be found untenable during any great war, when the number of wounded would greatly exceed the working capacity of the limited number of surgeons. In summarizing the following conclusions were emphasized:

1. First-aid packages are indispensable on the battle-field in modern warfare.

2. The first-aid dressing must be sufficiently compact and light to be carried in the skirt of the uniform or on the inner surface of the cartridge or sword belt, so as to be of no inconvenience to the soldier or in conflict with military regulations.

3. The Esmarch triangular bandage is of great value in the school of instruction, but in the first-aid package it is inferior to the gauze bandage.

4. The first-aid dressing must be ap-

plied as soon as possible after the receipt of the injury, a part of the field service which can be safely entrusted to competent hospital corps men.

5. The first-aid dressing, if employed behind the firing-line, should be applied without removal of the clothing over the injured part, and fastened to the surface of the skin with strips of rubber adhesive plaster, the bandage being applied over and not under the clothing.

6. The first-aid dressing must be dry, and should remain so by dispensing with an impermeable cover over it, so as not to interfere with free evaporation of the wound secretion.

7. The first-aid dressing should not be disturbed unnecessarily, but any defects should be corrected at the first dressing-station.

Dr. Charles B Nancrede of Ann Arbor, Mich., followed with a paper on "The Effects of Modern Small-arm Projectiles as Shown by the Wounded of the Fifth Corps." Reports show that about 1400 wounded were cared for at the hospital with which he was connected, for nearly all of the injured in this corps who survived for twenty-four hours, sooner or later passed through their hands, so that flesh wounds, and those of a day to a week or more, were observed. Flesh wounds were always of a trivial nature, unless the ball became deformed by striking some extraneous object or when stripping its mantle, as it sometimes did. This immunity enjoyed by the flesh wounds caused by Mauser and Krag balls resulted, first, from the slight amount of contusion caused by the rapidly moving ball, second, the antiseptic condition of the ball, and, third, the rarity of the carriage of fragments of clothing into the wound, as was not uncommonly done by the forty-three-caliber Remington, brass-mantled balls. If maintained aseptic, the majority of flesh wounds healed almost as if they had been incised wounds, not uncommonly cicatrizing under the primary field dressing made with the first-aid package.

Contusions, or slight wounds of the great vessels leading to so-called traumatic aneurisms, or aseptic or septic sloughing of the vessels many days after the receipt of the wound, were far from uncommon. Thus, he saw one wounded subclavian where the patient survived over three weeks, to finally succumb to hemorrhage during an attempt to ligate the vessel, which was torn for a long distance. He also knew of another dying on the table some weeks after being wounded during an attempt to secure the same vessel. He tied the common femoral for wounds and assisted a colleague in securing another, days after the receipt of the injury. He tied one radial for secondary hemorrhage, and ordered the tying of an ulnar for ball injury several days after their division, and was compelled to amputate an arm after failing to secure a bleeding brachial in an apparently aseptic wound two weeks after the man had been shot.

The greatest advance in military surgery on the battle-field in recent times is the first-aid packet, and the greatest boon conferred on the wounded soldier has been asepsis and antisepsis, because in the majority of instances rendering his injuries so painless and their complications so slight that even anesthetics no longer occupy the chief place as a blessing to the wounded, because comparatively rarely needed. *Medical News, N. Y.*, 1899, lxxv, 58.

Alcohol as an Antiseptic.

Two papers, that of Braatz (of Königsberg,) and that of Sänger (of Krefeld,) remind us of the great difference between the theoretic and the practical value of alcohol as a medium for rendering the hands—surgically clean. Both refer to the fact that alcohol is, in the test tube, only a feeble germicide at best, but neither attempts to explain why it is, that we attain better results through its use. Sänger maintains, that absolute alcohol fails to destroy the staphylococcus aureus in 20 minutes, and he found, furthermore, that its germicidal power increased with dilution until 40 per cent was reached. Still, at that strength, it does not, with absolute certainty, kill the above-mentioned

germs. The critic gives these gentlemen little credit for originality in this matter, for Minervini taught us substantially the same thing years ago, although the results of the latter differed from those just quoted. He found alcohol most powerful in 50 to 70 per cent dilution. The various chemicals, when dissolved in alcohol, have considerably less effect upon germs, he affirms, than have aqueous solutions of the same strength. He could demonstrate further, that boiling in alcohol was the more effective the more water it contained. Thus Minervini was the first to show us, that the school to which we have pinned our faith, can scarcely be dignified by the name of antiseptic. The instructive point in Sänger's article is, that certain disinfections antagonize each other, viz., the effect of a carbolic solution, used upon the hands after alcohol, is much less than that of alcohol alone. His results with carbolic acid, dissolved in alcohol, were practically the same as those which I have quoted from Minervini, in his use of the different chemical antiseptics. Sänger says, that of all chemicals, chlorine is the most powerful disinfectant. To make the use of the same practicable, he applies a 2 to 5 per cent solution of hydrochloric acid for two minutes, then ½ to 2 per cent solution of potassium permanganate for one minute. The brown discoloration of the skin is removed in a few seconds, by the use of sulphurus acid. In this way, he brings about the liberation of nascent chlorine, oxygen and sulphuric acid, and insures a disinfection which is, he concludes, not to be attained by any other method. What the effect upon the skin might be, we are only left to surmise. *St. Louis Courier of Medicine*, 1899, xxi, 75.

Malaria in Mobilization Camps During the Late War.

To the Editor of the Medical News.

DEAR SIR:—Perusal of an article in a recent issue of the *Medical News* (Thayer, on "Recent Investigations upon Malaria," *Medical News* for May 20, 1899) recalls three cases of malaria which came under my observation while on duty as hospital steward in the Thirty-first Michigan Regimental Hospital, stationed at Knoxville, Tenn. While on duty for a short time in the fever ward of the Second Division Hospital at Chickamauga Park I did not observe a single case of malaria, although typhoid raged rampant.

The only insect pests which the soldiers at Chickamauga had to endure were the common house-fly and the much dreaded "jigger"; mosquitoes were a rarity; in fact, I do not remember ever having been bitten by a mosquito there.

On August 15th the entire Second Division of the First Army Corps was ordered to Knoxville, Tenn. After arriving at Knoxville, the typhoid continued, notwithstanding the fact that the sanitary conditions of the camp were ideal and the water-supply perfect. From August 15 to September 1st upwards of twenty cases of typhoid were admitted to the Regimenal Hospital. I believe these cases were incubating during the latter days of our stay at Chickamauga. Not a single case of malaria was observed. During the first week in September I admitted to the Regimenal Hospital three cases which I considered suspicious, and it was during this week that the mosquitoes decended upon the camp in swarms. Upon admission all three patients complained of having been severely bitten, and examination showed that the neck, forearms, calves, and ankles were covered with mosquito bites in various stages of development. The patients developed characteristic tertian rigors. Owing to the lack of facilities furnished the field hospitals, I was unable to made a blood examination immediately, but a few days later through the kindness of a local practitioner of Knoxville who furnished me with slides and cover-glasses and allowed me the use of his microscope, I was able to demonstrate the tertian organism in all three cases, the quinin which was being exhibited having, in the meantime been discontinued for the preceding forty-eight hours.

I mention these three cases because they were the first cases of malaria noted by me during my five-month's ex-

perience in the army, and because their appearance at the same time with the advent of the mosquitoes impressed me as being quite significant. During the month of September the number of new cases of typhoid rapidly diminished, but several new cases of malaria were admitted to the hospital, in all of which I was able to demonstrate various forms of the plasmodium malariæ.

Very truly yours,
WALTER MILLER WARREN, M. D.
Chateaugay, N. Y., May 25, 1899.
Med. News, N. Y., 1899, lxxiv, 100.

Vaccination and Smallpox in the Italian Army.

Livi (*British Medical Journal*, April 29, 1899, p. 1,017) records some interesting statistics demonstrative of the utility of vaccination in the prophxlavis of smallpox. From 1867 to 1897 inclusive, 3,095,571 vaccinations and revaccinations were performed upon men in the Italian military service. During this time there has been a gradual diminution in the number of those who presented marks of smallpox, pursuing a parallel line with the diminution in the number of unvaccinated. Vaccination, further, was more successful in those who had not been previously vaccinated, and least so in those who had suffered from variola. There has been a regular augmentation in the general proportion of successes, from 260 per 1,000 in 1867 to 698 per 1,000 in 1897. This is attributable in part to improved technique, in part to greater facility of securing first-rate lymph, and in part to the replacement of arm-to-arm vaccination by animal vaccination. There has been a constant diminution in the morbidity and the mortality from smallpox, the mortality having become almost nil. This result cannot be due to more rigid isolation and disinfection alone, as other infectious diseases subjected to the same influences have not responded similarly. Those who had never been vaccinated were most likely to die when attacked by smallpox, while those who had been recently and successfully vaccinated were most likely to recover. These figures do not differ essentially from the statistics already published repeatedly at different times, but they have a special significance as dealing with large numbers and being of most recent date. Vaccination is to-day, as it was a hundred years ago, a reliable and trustworthy prophylactic against smallpox, and it is impossible for an ordinary mind to "conceive upon what proofs, upon what arguments, a serious scientific opposition to vaccination can be grounded." *Med. Rec.*, N. Y., 1899, lv, 757.

Gunshot Wounds of Abdomen.

At the conclusion of an interesting paper detailing cases of perforating pistol shot wounds of the intestines, Dr. Geo. Woolsey says:

As to treatment, the necessity of operation is generally admitted: First, an enlargement and exploration of the wound to determine whether it is penetrating; then a laparotomy in such a position as to reach all parts of the peritoneal cavity, and especially those that lie in the track apparently taken by the bullet. The incision, as a rule, is best made in the middle line, through the rectus, an inch or so to one side of or through the semilunar line. If the diagnosis of perforation has not been made when the diagnosis of penetration is established the incision may be of moderate length at first; but as soon as the fact of perforation is known it is a mistake to confine ourselves to a small incision. It should be at least five or six inches long, for we can then treat the conditions present much more satisfactorily. The operation should also be done as soon as possible to give the best chance of success, but we may here be met by the question of shock as a contraindication to operation. If, however, the shock is due simply to the injury—and it may be severe after slight injuries, and *vice versa*—recovery is not long delayed under proper treatment. If the shock is due to hæmorrhage, it is progressive and not diminishing, and we can not operate too soon.

On opening the abdomen in any case,

the first thing to do is to check hæmorrhage if it exists. It is scarcely necessary to say that perforations of the intestine should be closed by Lembert sutures. Interrupted sutures are more secure, but take more time, which is an important factor if the wounds are multiple.

Two rows of continuous suture are safer and more rapidly applied than a single row of interrupted sutures.

The liberal use of hot normal salt solution (1) to cleanse the surface after visible particles have been removed with a gauze pad, (2) to keep the exposed surfaces warm and moist, and (3) to combat shock is, in my judgment, of the greatest importance.

I do not believe in irrigation at all in a local process like a localized appendicitis, but the case is different here. We can not tell how far the infection has spread, for it is not coextensive with the spread of the visible extravasated particles, which may be altogether wanting when the invisible infection has spread very generally.

It is safer, therefore, to cleanse all parts thoroughly, and the other effects of the solution are also not to be lost sight of. I will only add that upon the question of drainage it is difficult to lay down hard-and-fast rules. If we are uncertain of the perfect closure of any perforation; if free serous exudation has begun from peritonitic irritation, due to infectious matter, or if more marked signs of peritonitis exist, most of us would prefer to drain. The ideal course is that without drainage, and there is a tendency in that direction in many abdominal operations; but in cases of perforating pistol-shot wounds safety is the paramount consideration. *N. Y. Med. J.*, 1899, lxx, 37.

Military Surgery.

Dr. F. A. Abbott, (*The Lancet*, January 21, 1899), in an article on the surgery in the Græco-Turkish war, offers the following conclusions: The Roentgen rays should always, if possible, be available at that hospital nearest the front in which the wounds can be first properly examined and dealt with. The electricity should be derived from a secondary battery consisting of separate covered cells charged from the nearest town, a man-of-war or other steamer, or by means of a cycle motor, as has been recently done in the Soudan by Major Battersby. The skiagrams should be taken on Eastman's positive paper which is sufficiently satisfactory for the detection of foreign bodies. The apparatus is of no use on the field, where the detection of bullets can only be an incentive to premature exploration. The less wounds are tampered with before satisfactory surroundings are reached the better. All bullets difficult of access should be removed by a fresh incision and the track ignored. The modern bullet from its greater penetrating power will be much less frequently found in the body than its predecessors; it is practically aseptic and there is no urgency for removal. The hole of entrance is often extremely small. Suppuration is generally due to pieces of clothes carried into the tissues. Superficial septic sinuses should be excised. Wounds of lung by modern bullets run a comparatively favorable course. Small-bore bullets may bore through a bone without causing any line of fracture whatever, and every degree of injury from this up to the most extensive comminution may be met with. Passive movements and massage when possible should be begun early in bullet-wound fractures. *Med. Rec.*, N. Y., 1899, lvi, 231.

Revaccination.

Saint-Yves Menard (*Revue Mensuelle des Maladies de l'Enfance*, March, 1899) gives a table showing the importance of revaccination. There is a popular notion that the entire body is renewed every seven years in the young, but that this is not true of elderly people. According to Menard's table, revaccination in from six to ten years gave 17.6 per cent of positive results; at ten years, 15 to 18 per cent; at twenty years, 50 per cent; from twenty to forty years, 60 per cent; and from forty to sixty, 74.2 per cent; from sixty to eighty years, 82.9 per cent;

and from eighty to oneh undred years, 88.5 per cent. These figures show that vaccination immunity gradually disappears with advancing years ; that at the end of the first decade nearly one-fifth have lost their acquired immunity, and that this proportion rapidly increases with advancing years. These statistics clearly show that the view that revaccination is unnecessary in the aged is incorrect. *Medicine*, Detroit, 1899, v, 685.

The Operative Treatment of Varicose Veins.

Pierce Gould (*The Lancet*, April 8, 1899,) reports fifty cases of Trendelenburg's operation for varicose veins. It will be remembered that this operation consists in excision between double ligatures of a short piece of the internal saphena vein in the thigh, the object of this procedure being to protect the varices from the pressure and reflux of blood from the common femoral vein and venous trunks above it.

In any attempt to appreciate the value of this operation, an account of its immediate results up to the time the patient leaves the surgeon's hands is of no value. It is all-important to learn the later history of the patient. This Gould has been able to do in thirty-nine out of the fifty cases, and personally has seen twenty-five of them. In no single instance did the operation fail to relieve the patient of all pain, and it was invariably followed by a marked, often a very marked, shrinking of the dilated veins, sometimes to quite their normal size, in others to just short of that. This shrinkage may progress for many months. In no case did thrombosis develop above the ligature. The patients are usually kept in bed but a week.

One of the most troublesome complications of varicose veins is aseptic thrombosis ; it is sometimes very painful, and is not free from danger to life from embolism, and the course of the disease under the common palliative treatment is often exceedingly slow and not infrequently followed by relapse. Under these circumstances it is reasonable to try whether surgery does not afford a better means of dealing with these cases than the older methods of rest, local sedatives, moderate diet, alkalines, saline, and great patience. Thus Gould has treated two cases of aseptic thrombosis by excision of the thrombosed portion of the vein and immediate closure of the wound. Union by first intention was obtained. *Therap. Gazette*, 1899, xxiii, 550.

Hernia in Hebrew Soldiers.

Ssolomka quotes the statistics which were gathered in the Russian army in order to determine whether hernia occurred more frequently in one race than another. It had been said that the Hebrews brought on hernia oftentimes in order to avoid military duty. The statistics showed that among the Russians 1 man in every 250 had to be rejected on account of hernia ; 1 in 200 among the Poles ; 1 in 175 among the Germans, while among the Hebrews 1 in every 35 had to be rejected on this account. The writer admits that the Hebrews were of slighter build than the others, but he does not attempt to explain the great discrepancy between the figures as given. *Med. News*, 1899, lxxiv, 527.

Painless Injections of Mercurial Salts.

E. Bezin, (*Semaine Medicale*, March, 1899 ; *Merck's Archives*, June, 1899) says that guaiacol will render the injections of mercurial salts painless. The following formula is employed :

Sterilized olive oil, 20 drachms.
Biniodide of mercury, 6 grains.
Synthetic guaiacol, 36 grains.

The painfulness of intramuscular or subcutaneous injections of mercurial salts has heretofore militated against this valuable means of treating syphilis. The mercurial salts cannot be used with cocaine because of the precipitation of the latter substance, which renders it useless as an anesthetic. Even though the latter objection were overcome, the continuous employment of cocaine would have serious objections which cannot apply to guaiacol. *Medicine*, Detroit, 1899, v, 696.

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While visiting my nephew in Illinois last Christmas he told me his little girl, six years of age, had always "wet the bed" at night, and asked me "what shall I do for it?" I procured three ounces of Sanmetto, all the druggist had at that time; the second night she missed, and has had but three nightly emissions in two weeks. He wrote me last week "we consider her cured but shall keep an original bottle on hand and use if necessary." I have uniformly good results from prescribing Sanmetto in kidney and bladder complaints.

Saginaw, Mich.

T. T. HUBBARD, M. D.

Diarrhoea of Typhoid Fever.

Prof Hare frequently prescribes:

℞ Acidi sulfurici aromatici, 2 drachms.
Spirit. camphorae, ½ ounce.
Ext. hamatoxylin, fluid, ½ ounce.
Syrup. zingiberis, 3 ounces.

Sig.—Two teaspoonfuls when the stools exceed four in twenty-four hours. *Gaillard's Med. J.*

Menthol in the Treatment of Insect Bites.

The *Gazette hebdomadaire de medecine et de chirurgie* for April 30th gives this formula:

℞ Menthol, 1 to 2 parts.
Sulphuric ether, 10 parts.

M. To be applied lightly with a camel's-hair brush. Not to be used near the eye. *N. Y. Med. J.*

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THE MILITARY SURGEON

A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Captain, Medical Department, U. S. A ; Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. II. WASHINGTON, D. C., OCTOBER, 1899. NO. 8.

Selections.

Syphilis in the British Army and Navy.

The discussion on this subject at the recent meeting of the British Medical Association, was opened by Deputy Inspector-General E. E. Mahon, R. N., and Major W. Dick, M. B. The former called attention to the following statistics: In 1880, the average strength of officers and men on the home station was 22,379; in 1897 it was 43,900, or nearly double. In 1880 the loss to the service in number of days' sickness from syphilis, primary and secondary, and gonorrhea was as follows:

Syphilis, primary	32,223
" secondary	12,859
Gonorrhea	40,392

In 1897 the loss to the service in number of days' sickness was:

Syphilis, primary	76,335
" secondary	49,764
Gonorrhea	77,054

The figures show what an enormous loss there is to the country through the prevalence of these diseases. He considered that it was impossible to hope that the Contagious Diseases Acts would ever be enforced again. That, however, would be the most effective way of dealing with the question. Failing this the moral elevation of the men themselves must be attempted, and especially the encouragement of sobriety. He emphatically asserted that intemperance was very largely responsible for the number of cases of venereal disease. The following suggestions were made: 1. Good naval barracks to be substituted for depot ships in all the principal ports. 2. Advice to be given to young soldiers in regard to personal cleanliness. 3. Early marriage to be encouraged, which might be done by offering pensions to the widows of seamen. 4. Pensioners in good health, and not suffering from the sequelæ of venereal disease, to be given preference for civil employment by the Admiralty. Major Dick called attention to statistics, collected at five years' intervals, showing the increasing number of cases of venereal disease compared with all cases of illness in the army. The percentages for the years 1882, 1887, 1892 and 1897 were respectively 23.66, 26.65, 30.-94, and 38.71. It will thus be seen that there was in fifteen years an increase of 15 per cent. of cases of venereal disease. In 1897 the number of cases of venereal disease treated at Netley was nearly one-third of the total number of cases of sickness. The following suggestions were made as to the prevention of syphilis in the army: 1. The inculcation of moral principles in the young soldier. This, though admirable, is theoretical rather than practical. 2. Hygiene of the individual. 3. The rendering of a soldier's life as pleasant as possible in barracks, to prevent his see ing his pleasures abroad in the evenings. Men should be encouraged to come to hospital the moment they themselves detect anything suspicious.

Major Lambkin, R. A. M. C., dealt in detail with the intramuscular method of injection. By this method the treatment of syphilis can be continued for as long a period as is thought necessary with little or no trouble to the patient. The following prescription has been employed: Hydrarg., dr. j; lanolin pur., drs. ij; ol. carbol. (1 in 20), drs. iv. Ten minims are injected in the buttock once a week, and the whole course of treatment lasts about eight to twelve months. In 20,000 injections he had only once seen any bad result—a localized abscess at the point of injection. Dr. Shaw Mackenzie thought that the improvement during the Contagious Diseases Acts was due to the hospital treatment rather than to the machinery of the Acts, and that provision for such hospital treatment of both sexes, voluntary as opposed to compulsory, seems necessary at the present time. Colonel F. H. Welch, R. A. M. C., believed that the present state, especially abroad, of the army in its relation to venereal disease, is such as to require measures of prevention. All public measures of prevention must lie in the control of prostitution, and authorities abroad should be allowed a free hand in meeting the local conditions.

Mr. A. H. Ward read a paper on "The Rational Treatment of Syphilis."

The following points were considered essential: 1. To push mercury to the toleration point and keep it there. 2. To commence treatment at the earliest possible moment. 3. To continue it throughout the normal period of the evolution of the disease. 4. To make treatment easy and not be irritating. 5. To take special care of the general health. 6. To recognize the value of water as an adjuvant to treatment. *Med. News.* 1899. lxxx, 283.

The Diagnosis and Treatment of Gunshot Wounds of the Abdomen

was read by Colonel Stevenson, professor of Military Surgery at Netley. Civil practice had been freed from the dread of interference with a serous membrane. Military surgeons had been slower in recognizing the capability of modern surgery in cases of gunshot wound of the abdomen, and for the following reasons: The procedures must be carried out in field-hospitals; the personnel of these hospitals was kept as low as possible; the work done in them was performed at high pressure; wounded men were often left on the field of battle a long time before being picked up, and the military surgeon's mind was influenced by the feeling of the "greatest good to the greatest number." When patients were healed by rest and opium, the cures were probably not more than 1 per cent. of those diagnosed. When a bullet traversed the abdomen it might be assumed that either extravasation of intestinal contents or hemorrhage, or both, had occurred. A fatal issue was certain in either. The indication was quite distinct; the abdomen must be opened, the intestines sutured, and the peritoneum cleansed. The symptoms of hemorrhage and of extravasation of intestinal contents were analyzed and discussed. Hemorrhage results from the following injuries, in point of frequency: Rupture of the liver, spleen, kidneys, small intestines, and large intestine. The symptoms of extravasation are misleading, irregular, and inconstant. The onset of sudden meteorism, upon which so much stress had been laid was considered of no value. The absence of liver dulness might be observed when no rupture of intestine had occurred, and liver dulness might be present when there was much free gas in the peritoneal cavity. The results in recent campaigns were mentioned. In the Spanish-American war all patients operated on died. In the Græco-Turkish war one case of hemorrhage, and one of injury to the liver terminated in recovery, one of wound of hollow viscera in death. In the Tirah campaign five patients were operated on and all died. The statistics of Morton of Philadelphia were more encouraging. In 234 cases occurring in Europe and America, the mortality was 58.9 per cent. Coley's statistics showed a death rate of 53.9 per cent. if operation was performed within twelve hours, and 77.3 per cent. if performed after twelve hours. When

a wound of the intestine was found it was best treated by (1) simple suture in two layers, one for the mucous membrane and one for the peritoneum; (2) the method of Maunsell; (3) Murphy's button.

Dr. Ward Cousins pointed out that the chances of success depended on early operation as soon as the diagnosis of internal injury had been made out. The diagnosis was not always easy. Perforation with very little extravasation might not cause urgent symptoms; on the other hand, severe contusion of the abdominal wall might be followed by great collapse. Every case must be left to the judgment of the surgeon. When operation is performed it is best to enlarge the wound of entrance and to use as retractors stitches passed through the edge of the wound and held by assistants. The methods of treatment he preferred were simple suture by fine silk and the Murphy button.

Major W. C Beevor quoted the experience of Colonel Whitehead and himself in the Tirah campaign. The number of the wounded was very large; all water within access was contaminated by the urine and feces of men and animals. He quoted cases showing the enormous difficulties in the way of carrying out adequate treatment. He drew attention to the enormous advantage obtained in the treatment of collapse, by the preliminary irrigation of the peritoneal cavity.

Surgeon-General O'Dwyer expressed the belief that operation on the field of battle was impracticable. Unless patients could be dealt with as in civil life it is best not to operate.

In reply Colonel Stevenson regretted that in the last campaign the conditions did not approximate to those existing in civil life, but felt sure that with the new experiment the measures suggested as being necessary for an adequate treatment could be efficiently carried out.—*Medical News*, N. Y., 1899, lxxv, 248.

Septic Infection of Bullet Wounds.

The editor of the *New York Lancet* discusses (January, 1899,) the subject of "The Septic Infection of Bullet Wounds," saying: From the point of view of treatment, bullet wounds may be arranged in three divisions: Those which contain no infective germs; those which contain germs in very small quantity or of slight virulency; and those which contain a sufficient quantity of actively pathogenic germs to set up serious mischief. In most instances the injury belongs to the second category, but as the surgeon cannot determine this, and it is necessary to prevent secondary infection, endeavor should always be made to disinfect the wound. Such treatment, however, in cases of infection of a gunshot wound by a virulent organism, is not very promising, as in observations made in gunshot wounds of rabbits infected by staphylococcus aureus and streptococcus capsulatus death resulted, in spite of the energetic application of the actual cautery, and of carbolic acid and tincture of iodine. Tavel has published the results of some experiments made by Muller in the Bacteriological Institute at Berne, with the objects of making out how infection may be originated in a wound caused by a rifle bullet, and whether infective organisms carried on a missile can be destroyed during its discharge by heating due to great velocity and friction, or be rubbed off in the penetration of clothing material which is practically sterile. The microbe made use of in these experiments was the extremely virulent streptococcus of Marmorek, which was applied in some instances to the tip or the cylindrical portion of the bullet, in others to the inside of the rifle barrel, and in others, again, to clothing over the seat of injury. In all the experiments, which were made on rabbits, fatal infection of the wounds was set up. It is concluded from these researches: (1) That a gunshot wound may be infected by pathogenic germs transmitted either from the bullet itself or from the barrel of the rifle, or from perforated clothing; (2) that such infection is not prevented or influenced in any way by a great initial velocity or heating of the missile; and (3) that after the wound has been inflicted, infective mischief, when once established,

cannot be arrested either by the application of iodine, or drainage, or cauterization of the track of the bullet. The infective microbes, it is held, are at the moment of the injury driven beyond the wound and into the surrounding tissues. This paper is followed by another on the same subject, in which Koller shows by the results of experiments carried on, as were those of Muller, in the Bacteriological Institute at Berne, the extreme difficulty, if not impossibility, of dealing effectually with infected gunshot wounds. Koller agrees with the former investigator in the conclusion that neither excessive heating of the rifle barrel nor great velocity of the bullet can destroy or remove any infective germs. By these experiments, in which not one only, but several forms of infective microbe were used, it was shown, the author states, that for infection to occur in a gunshot wound the pathogenic germs must possess a high degree of virulency. With regard to the assumed failure of disinfectant treatment in cases of gunshot wound, it is pointed out that there is a marked distinction between this class of injury and incised wounds. In the former, the liability to infection is much greater on account of the more serious and more extensive wounding of the tissues. Karlinski states, in a paper on infection of gunshot wounds by particles of intruded clothing, that a wound caused by a carefully disinfected bullet invariably becomes infected if such bullet has passed through dirty or artificially infected clothing. Such mischief, which cannot be prevented by cauterization or the injection of sublimate solution, is indicated by the formation of abscesses around the track of the bullet, and subsequently by general infection. The disseminated centers of suppuration around the original wound are attributed to the forcible intrusion into the surrounding tissues of particles of clothing, which are carried far beyond the influence of any disinfecting agent applied to the actual seat of injury. *Am. J. Surgery & Gynecology, St. Louis*, 1899, xi, 165.

Tuberculosis in the German Army.

Sbhjerning states that the morbidity from tuberculosis in the German army is extremely low. With a force of 514,830 men in the past year there were only 950 who showed tuberculosis. The number of deaths per thousand from this disease has been decreasing markedly, that is, from .42 per thousand in 1892, to .24 per thousand in 1897, and careful study developed the fact that the most of the cases occurred in certain army-corps, which was composed chiefly of those coming from large cities or densely populated areas, and this indicated that most of the cases had probably existed in mild degree before the men entered the army. Many of them are believed to have acquired tuberculosis after entering the army by visiting tuberculous relatives and through their occupation; as for instance musicians are frequently engaged to play in dance-halls, where the opportunities for infection are unusually good. It is notable that many other infectious diseases, particularly typhoid fever, when occurring in the German army, have usually been traced to a source of infection ouside of army control, such as drinking water while passing through towns when on the march, and the author believes that much of the tuberculosis of the army is contracted in the same way. *Phila. M. J.*, 1899, iv, 249.

Appendicitis in the French Army.

At the session of January 24th, Chauvel reported the results of the treatment of 171 cases of appendicitis occurring in the French army. About one-half of the patients were subjected to operation. The mortality in this group was slightly higher than in the group of those treated medically. This was due partly to the fact that for the most part only the graver cases were brought to the operating-table, and partly to the length of operative manipulations. Operation is always indicated if suppuration is present or seems likely to arise, while the cases without suppuration may safely be placed under a rational medical therapy. *Medical News, N. Y.*, 1899, lxxiv, 317.

The United States and Foreign Army Rations Compared.

Woodruff gives a table of the rations supplied to the armies of various nations, and a careful study of their relative food-value. He states justly, however, that when the different army rations are compared with the foods commonly used in these nations it will be seen that ours is, thus considered, amongst the least liberal instead of, as is commonly claimed, the most liberal. He also deplores the fact that there is no flexibility in our rations; that what is prescribed must be given, while many other nations allow of the substitution of one kind of food for another in case of necessity or advisability. Furthermore, our ration does not allow of an increase during any especial strain, and this is a wholly irrational plan. Our measures for increasing the quantity and kind of food supplied are entirely unreliable, and this is the greatest cause that the soldiers had for complaint during the late war. A constant source should be provided. *Med. Rec. N. Y.*, May 20, 1899, (*Phila. M. J.*)

An Army Vaccine Farm.

General Guy V. Henry and the medical officers serving under him are to be praised for their very efficient work in Puerto Rico. They have stamped out a threatened epidemic of smallpox, and have rendered that disease almost a nullity upon the island. The surgeons put into operation a vaccine farm, produced their own vaccine, divided up the island into five districts, established vaccination stations in every village and city of any size, and vaccinated practically every Puerto Rican—some 850,000 people in all. The vaccination was practically compulsory, for the order was that people who were not vaccinated could not enter any public conveyance or public place. The population generally took very kindly to the measure. The cattle-owners on the Island lent their cattle to the surgeons for the purpose of producing the virus required.—*Med. News, N. Y.*, 1899, lxxiv, 664.

An Army Sanitarium for Tuberculosis.

[General Orders, No. 159.]

HEADQUARTERS OF THE ARMY,
ADJUTANT-GENERAL'S OFFICE,
Washington, Aug. 29, 1899.

By direction of the Secretary of War, the Surgeon General of the Army, is authorized to establish a general hospital at Fort Bayard, New Mexico, as a sanitarium for the treatment of officers and enlisted men of the army suffering from pulmonary tuberculosis, and hereafter transfers of enlisted men suffering from this disease may be made to this hospital upon the recommendation of medical officers of the army (to be forwarded through military channels.)

Such buildings pertaining to the post of Fort Bayard as may be necessary to carry this order into effect will be designated by the Surgeon General of the army. Fort Bayard will be put in good state of repair by the Quartermaster's Department.

The Surgeon General is also authorized to provide for the care and treatment of discharged soldiers entitled to the benefits of the U. S. Soldiers' Home, Washington, District of Columbia, who may be sent to the sanitarium by the Board of Commissioners of the Home. The expense for the maintenance of such discharged soldiers to be paid from the Soldiers' Home funds.

By command of Major General Miles:

H. C. CORBIN,
Adjutant General.

The Royal Army Medical Corps.

According to the *Lancet* for April 29th, it was recently announced in the, British Parliament that, owing to the redress of the long-stonding grievances of the army medical officers by the creation last year of the Royal Army Medical Corps on a self-containing and self-administering regimental footing, the lack of medical officers, which has prevailed of late years in the British army, is being overcome, and they are already able to obtain two candidates for each vacancy in the corps. *N. Y. Med. J.*, 1899, lxix, 727.

Death Rate of the English Army in India.

Quite a hopeful and reassuring contribution to the tropical colonization problems of both Anglo-Saxon races has just been made by a report of the War Office here. In this the death-rate of the English Army of Occupation in India since 1840 is given and a most gratifying decline shown. Previous to 1857 the average rate was 60 per 1,000 living per annum, simply murderous for vigorous male adults; in 1896 it had fallen to 14.8 per 1,000, or less than one fourth of the previous figure. This is about equal to the general mortality of a healthy country district, and only some 4 or 5 per 1000 above the ordinary garrison rate at home. *Med. News*, 1899, lxxiv, 773.

Venereal Disease in the British Army in India.

Out of an actual strength of 16,600 British troops proceeding on service in the recent campaign on the Northwest frontier, 492, or three per cent., were incapacitated during the compaign on account of venereal disease. The 16,600 troops were drawn for service from a force of 21,439 men. Of this number 989 were rejected as unfit for service on account of venereal trouble. Hence 1,481, or nearly seven per cent. of the total strength of the army, was disqualified for service. *Med. Rec.*, N. Y., 1899, lv, 896.

Hypodermic Injection of Quinine in Malaria.

W. Young, M. B., C. M., Captain, I. M. S., says, in the *British Medical Journal*: "I wish to add my testimony to the efficiency of this method of treatment. I have used hypodermic injections of quinine for some time in malarial fevers, both mild and severe, and agree with the opinion of Captain Johnston as to the excellent results obtainable. I have found the drug given in the form of a hypodermic injection of the soluble hydrochlorate and hydrobromate of quinine, in doses of 1 or 2 gr. daily, particularly useful in low remittent fevers in children. Under antiseptic precautions no untoward results occur, and symptoms of cinchonism are rare under this treatment." *Med. Rev. of Rev.*, 1899, v, 519.

In the Treatment of Dysentery with Ipecac.

Dalgetty (*British Medical Journal*, April 15, 1899, p. 903) pursues the following plan of procedure: A large mustard plaster is applied over the stomach and 20 minims of tincture of opium are given, followed in ten minutes by gr. xl. of powdered ipecacuanha in four ten-grain pills freshly made up. The horizontal position is to be maintained for four hours, no food or drink being allowed during this time. The treatment is to be repeated in eight hours if no improvement has taken place: otherwise, smaller doses are employed with the same precautions. *Med. Record*, N. Y.

Trigger-Finger.

Two groups of so-called trigger finger have been recognized, the organic and the functional. Causes for the organic variety may be found in the tendons, fascia, muscles, or in conditions which will tend to modify the directions of muscular action, and the movements of flexion and extension. The functional class may be reflex, following local irritation, or may be a local manifestation of certain neuropathies. Cases of this class may arise independently of any voluntary movements. *Phila. M. J.*, 1899, iii, 662.

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Repose in Bed in Alcoholism.

Magnan (*Rev. de Therap. Medico-Chir.*, June 1st, 1899) says that repose in bed is one of the best sedatives for cerebral excitation occurring in acute or subacute alcoholism. The predominant phenomena of these troubles are the illusions and hallucinations, and these are increased if the patient is kept in the dark, while if he is kept in the light, only the fixed objects about him are associated with his imaginings, and forms which are wholly fanciful are relegated to a secondary place.—*Medical Review of Reviews.*

For Obstinate Constipation in Acute Meningitis.

The following mixture is recommended as suitable for administration to a child:

R Ol tiglii, m ii; Mucilag. tragacanth, q. s.; Syr. zingiberis, 1 drachm; Aq. dest., 2 ounces.

M. Ft. emulsio.

Sig. One to two tablespoonfuls every fifteen minutes until the bowels act.—*Barthez and Sanne.* Bull. of Cleveland General Hospital.

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VOL. II. WASHINGTON, D. C., NOVEMBER, 1899. NO. 9.

Original Article.

FOUR CASES OF APPENDICITIS.*

BY W. C. BORDEN,

Capt. and Asst. Surgeon, U. S. A.

The cases which I have to present derive their interest from the fact that they are accompanied by the pathological specimens and that while two of them are cases of severe appendicitis, two are cases of an extremely mild type of the disease. The mild cases are examples of a type which rarely go to operation. It is probably much more common in the military service to see cases of mild appendicitis than in civil practice. This is due to the fact that medical advice is free in the Army and that men in military service are exempt from duties when on sick report. For these reasons they come for medical advice much earlier in the beginning of their illnesses and come from much more trifling complaints than are ordinarily seen by civil practitioners. Cases of mild appendicitis are extremely interesting in that they may be, and frequently are, forerunners of more serious type of the disease. In fact the severe types as ordinarily seen are generally the closing chapters in the histories of the cases rather than the entire history, much less the opening chapters, which are seldom seen.

Appendicitis is a disease so protean in its aspect, so insidious in its onset and course, and the prognosis of it is so indefinite and in many cases so undeterminable, that the opinion of surgeons and physicians is still largely undecided as to the best methods of procedure. Gradually, however, it seems that the profession at large is coming to the conclusion that where symptoms of this disease have presented themselves, the only real safe course is the removal of the cause, that is, complete removal of the appendix.

In presenting these cases, I shall give the two severe cases first.

Case I. An attack of severe appendicitis with operation in the interval, three months later. L. F. S., Battery "A," 4th Artillery, was admitted to the General Hospital, Washington Barracks, D. C., March 3rd, 1899, having been transferred from Fort Washington, Maryland, for operation.

* Paper read and specimens shown at a meeting of the Medical Society of The District of Columbia, Oct. 23, 1899.

Previous history: January 13, 1899, was seized with a pain in the lower part of the abdomen. January 14th he still suffered from the same pain with nausea and vomiting. He did not report at sick call until January 15th, on which date he was admitted to the Post Hospital at Fort Washington with all the symptoms of an attack of acute appendicitis. His temperature on admission was $99\frac{2}{5}$ and it rose steadily until it reached 103^{2} on the evening of the next day. It fluctuated between 104 and 101 for eight days, when it suddenly dropped to normal. No record of his pulse was kept. From that time on until he reported at the General Hospital, Washington Barracks, he had occasional slight exacerbations of temperature and had continued pain of a variable character in the right iliac fossa. On admission to the General Hospital his temperature was 99, pulse 78, bowels regular, and was able to walk about with no trouble other than a slight sensation of discomfort on the right side of the abdomen. Palpation of the patient's right iliac region gave rise to much pain even on light pressure, the greatest pain coinciding with McBurney's point. There was muscular rigidity over the same region and apparently an ill defined but small mass. Three days later I removed the appendix under chloroform. On opening the abdominal cavity, the appendix was easily located, but the adhesions about it were very dense and bound down firmly to the posterior abdominal wall. The peritoneum and bowel in the neighborhood of the appendix were considerably congested and gave evidence of a still continued irritation or inflammation. The appendix was freed and removed.

The specimen shows the appendix much curved upon itself. The lumen of the appendix where still pervious has numerous points of stenosis and about one-third of its lumen, a little beyond the middle, is completely occluded. The appendix shows the effect of a violent or continued obliterative inflammation. Though there is no history obtainable, of previous attacks, the condition of the appendix clearly points to the conclusion that a number of attacks of inflammation had existed prior to the severe attack through which the patient passed at Fort Washington.

Case II. Recurrent appendicitis, three attacks. One attack with appendicial abscess. Appendix removed between the attacks. A. E. C., Private, Battery "C," Third Artillery. Was admitted to the General Hospital at Washington Barracks, June 15th, 1899, with the following history: October, 1897, had an attack of abdominal pain, the first which he ever had, which lasted for five weeks. The attack was diagnosed "appendicitis." In November, 1898, had a severe attack and an appendicial abscess formed. The abscess was opened by the attending surgeon, but the appendix was not removed. In May, 1899, had a third attack, which was quite severe, and when convalescent from this attack he was ordered to the General Hospital at Washington Barracks for treatment. On his arrival he was in good health, no rise of temperature, his bowels were regular, deep palpation over the appendix gave rise to considerable tenderness. He had been troubled since his first attack with quite obstinate constipation. On June 28th I removed the appendix under ether. It was very short, bent sharply upon itself and bound down firmly to the posterior abdominal wall. The specimen shows a short appendix bent in

nearly a horseshoe form, the cavity of which is entirely obliterated, with the exception of two small cavities, one about its center and one near its distal extremity. As in Case I, the condition of the appendix, its form, adhesions to the posterior abdominal wall and the obliteration of its lumen show that it had been subjected to frequent or continued obliterative inflammatory action.

The next two cases are cases of mild appendicitis. The symptoms in these cases were so mild that they would ordinarily have hardly led patients to operation. The condition of the appendix, however, shows plainly that a catarrhal appendicitis was or had been present for some time which would probably have led to local stenosis of the duct with subsequent attacks of appendicitis of more violent type.

Case III. W. H. W., Private, battery "E," 6th Artillery, was admitted to the General Hospital, Washington Barracks, March 27th. At that time had colicky pains radiating over the entire abdomen, the most intense in the region of the umbilicus. He was constipated and nauseated, but had no vomiting. Had had a slight chill. His temperature on admission was 98 4-5, pulse 72. There was muscular rigidity over the entire abdomen, most pronounced on the right side. There was marked pain on pressure over the region of the appendix and pressure over that region increased the feeling of nausea. A diagnosis of mild catarrhal appendicitis was made, and he was given magnesium sulphate in divided doses. His temperature was taken every four hours. It immediately fell to normal and did not rise again until the fourth day when it reached 99 2-5 for a single observation. The highest pulse rate was 96 and he was returned to duty five days after his admission. The nature of the disease was fully explained to the patient, and operation advised but declined. Five days later he again presented himself at the hospital stating that his pain was persisting and growing worse and giving him a nauseating sensation. He looked ill and palpation disclosed marked rigidity and spasm of the right rectus muscle and more severe pain and localized tenderness about the McBurney's point than was present when he was in the hospital before. Temperature on admission was 99 3-5, pulse 78. The evening temperature, 100, pulse 72. The next day his temperature rose to 99 2-5, pulse 72, and the next day I removed his appendix under chloroform. The appendix was much curved and kinked upon itself and there were a few small inflammatory adhesions at the proximal end. The whole appendix was much injected and congested. The specimen, the distal end of which has been removed for microscopical purposes shows the appendix much curved and bent upon itself, but with a free lumen. At one point there are contracting inflammatory adhesions which have bent the appendix at nearly a right angle, and below this point fecal concretions have accumulated. The condition of the appendix is in keeping with the mild symptoms noted, namely, irritation and catarrhal inflammation due to an obstruction to removal of the secretons of the appendix from the sharp curves in its course.

Case IV. Mild appendicitis; one recurrence; removal on second attack. A. S. L., private, Battery "O," 7th Artillery was admitted to the General Hospital, Washington Barracks, September 17th, at 8 p. m. Had been taken while on guard with severe abdominal pain. Was

nauseated, but did not vomit. There was marked abdominal rigidity, most pronounced on the right side. Pressure over McBurney's point gave rise to marked pain. Was constipated and stated that before entering the military service had had an attack of severe abdominal pain which had confined him to bed for two days. He had had a physician in attendance who had prescribed a mustard poultice and some medicine, the nature of which he did not know, but the physician had not notified him of what he considered to be the trouble. His temperature on admission to the hospital was normal, pulse 84. He was given magnesium sulphate in divided doses and had no rise of temperature except once, four days after his admission, when the thermometer registered 99 2-5, pulse 108. Local tenderness and fugitive pains persisted and he had a decided feeling of discomfort in the right iliac fossa on walking. An operation was advised and I removed the appendix, September 6th. The appendix was freely movable, markedly congested, constricted at its proximal end and what might be called almost enormously large.

The specimen shows a large, distended appendix, the blood vessels of which are markedly congested and the proximal end of which is constricted. At the constricted point, the lumen of the appendix was completely obliterated, so that there was absolutely no passage between the cavity of the appendix and the cavity of the caecum.

As in case III, the mild nature of the symptoms hardly pointed to any real immediate grave lesions of the appendix. But though the symptoms were extremely mild, the pathological condition was much more dangerous than in that case. The total obliteration of the appendix at its proximal end turned its cavity into a retention cyst or living test tube, in which trouble sooner or later was sure to develop. The post-operative history of these four cases was uneventful. In all the abdominal incision healed by primary union and recovery was uninterrupted. As to the technic of the operation, in all a "purse string" suture was thrown about the base of the appendix, and after removal of the appendix the stump was invaginated into the cecum and the opening closed with buried sutures of kangaroo tendon and the skin by subcuticular suture of the same material.

In summarizing these cases I wish to call attention to the remark made at the opening of this report that appendicitis as as seen clinically and especially in the worst cases is really the concluding chapter in the history of the disease. What first occurs is probably an irritation, an inflammation confined to the lumen of the gut, and not until this inflammation has produced sufficient pathological change to nearly or entirely occlude the lumen of the appendix are the real serious symptoms ordinarily developed. In any given case how soon or when such serious symptoms may arise it is impossible to say and given the necessary surgical skill and command of aseptic technic, the dangers of operation are so slight in mild cases and in cases operated upon in the interval, that it would seem better to make it an invariable rule to operate on all cases where symptoms of appendicitis have been present, and the consent of the patient can be obtained.

Selections.

Military Surgery.—Ogston.

At the general session of the British Medical Association, on Thursday, August 3rd. Dr. Alexander Ogston delivered the address in surgery. Departing from the custom of the association somewhat, instead of reviewing the progress made along surgical lines, he asked whether the advances made since Lister's discoveries have been placed within the reach of the naval and military medical services. There could be only a negative answer to this query, and in the latter portion of his address he outlined some plans to bring about a better state of affairs. He spoke, in part, as follows :

While, in many respects, we have good reason to praise the age we live in, no one fully acquainted with the state of surgery in our land can fail to be impressed by the fact that some of our medical and surgical brethren are still hampered by systems and restrictions which must be swept away. I venture to believe that in the city of Portsmouth it will not be out of place to advert to the condition of our army and navy medical services. These, since the surgical world was stirred to its depths thirty years ago by the doctrines of Lister, have been, I fear, gradually falling into a condition that cannot fail to evoke much anxiety regarding their present and future ; and it appears to me that the present time is suitable for drawing attention to the reforms that may be necessary to ensure that, when the supreme moment arrives, the medical departments of these services will be found adequately prepared to undertake the duties they will be called upon to discharge. Recent events have demonstrated that we may be unexpectedly called upon to engage with both army and navy in European or even world-wide wars, such as would put their efficiency to the severest possible test.

Their duties in time of peace afford the army and navy surgeon, it is no exaggeration to say, scarcely any chance of acquiring the knowledge and skill that would be demanded of him in war. No surgeon can now, as in former days, rise suddenly out of the ranks of those destitute of special training, however eminent his natural abilities may be. He who is skilled in exercising his profession becomes so by many years of special training. No man who is but theoretically acquainted—be it in ever so perfect a fashion—with the mere doctrines of antiseptic surgery is able to step at once into the arena as a practical surgeon.

Much that is instructive may be learned from the medical services of Germany, where, of course, compulsory service exists. Every medical man who has served in the army at all is maintained for nineteen years under military orders—that is, he possesses a fixed rank, and is allotted, even in time of peace, a known military post which he would occupy if war broke out. Thus the university professors hold high military ranks, and are required to give annual courses of instruction to the medical officers serving in the army and navy. Such well-known surgeons as Bergmann, Bruns, Trendelenburg, and Mikulicz have to teach these classes during the Easter holidays, so as not to interfere with the winter and summer sessions of the universities. In time of peace German army surgeons have the development of their professional culture ensured by the following measures: The most promising surgeons and assistant surgeons are sent on duty for a year at a time in the medical, surgical, and gynecological departments of the hospitals connected with the universities and in other large public hospitals not connected with them. The junior and assistant surgeons are also annually sent to attend the special courses of instruction in anatomy, surgery, and operative surgery mentioned above. The senior medical officers, nearly corresponding with our surgeon-majors, at least the most competent and promising of them, have to serve in rotation in the large military hospitals, in which are treated, not merely soldiers, but all kinds of ordinary patients ; there they have to act as teachers and attend and take a share of the tutorial work among the

pupils in the classes of the various professors; or they may be sent on duty for a year in the general hospitals, not only in the surgical, but also in the medical and gynecological wards. They have also to attend, as they may be ordered, annual courses in bacteriology; or they may be furnished with funds for traveling in other countries and studying their medical and sanitation arrangements.

In the Russian army and navy similar care is taken of the professional culture of the medical officers. Russia possesses 6 large and 300 small hospitals connected with the army, besides smaller lazarettos; and in some of these the equipment is far in advance of anything the services possess in this country. Thus the military hospital of St. Petersburg treats all medical, surgical, gynecological, ophthalmic, and other diseases, consists of five separate clinics or infirmaries, each of which is complete in itself, and has 850 beds, 120 of which are for women, and 20 for children; and about 45,000 patients are treated per annum. In these clinics the students and asssistants have to work in the most thorough manner, and study every kind of case. The hospital possesses a staff of 34 professors, 70 *privatim docentes*, and 47 assistants. Each department is furnished with an ample annual allowance for instruments and apparatus, and has liberal provision of everything calculated to assist the most advanced work and investigation; X-ray rooms, photographic rooms, electrical rooms, immersion lenses, centrifuges, etc., to an extent that excites the marvel and envy of British visitors. Russia has 300 surgeons in her army, and any of these may, if he shows ability and powers of work, apply for and be ordered to return to study in the hospitals for a period of two years. There he has to work as a regular assistant, and on proving his capacity may attain a place among the teachers of the institution; or he may be transferred to the hospital of some provincial city, and there continue to perfect himself in his profession, and further qualify himself for his duties in time of war. The Russian naval hospitals are arranged like their army hospitals; they exist in many parts of the empire, there being five large ones at different ports, besides one or two smaller ones; they admit civil cases of all kinds; and in them the medical officers possess opportunities of training themselves in all manner of high-class professional work.

In the French army post-graduate courses, expressly for medical officers, are conducted by professors at the different universities throughout the Republic, and the cost is borne by the Army Medical Department; while a certain number of the medical officers of the active and reserve army are every year ordered to attend them, extra pay being drawn by those who do so.

But enough has been said to show that we have much to learn from foreign countries; that, unless we follow their example, our officers, soldiers, and sailors who may be wounded in war will be attended to in a very imperfect fashion compared with those of other European Powers; and that our services stand in need of great reforms. *Medical News*, N. Y., 1899, lxxv, 283.

The Removal of Blood-Stains From Clothing.

J. T. Rugh, in the *Philadelphia Medical Journal* of August 12, 1899, says that hydrogen peroxide will remove blood-stains from linen or other fabrics. The earlier the applicatian is made the better the result, but even old blood-stains may be completely decolorized by this method. The peroxide should be used in full strength and the application repeated until the stain is entirely obliterated, this being hastened by rubbing the spot with the finger or a cloth during the application. If hot water has been used, or anything that will coagulate the albumin, the peroxide will not remove the stain. By this method he has often removed spots from the shirt-front, collar, and cuffs, and after the surface had dried there was no evidence of soiling. The color of fabrics is not changed by the peroxide. *Medicine*, 1899, v, 859.

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THE MILITARY SURGEON

A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Captain, Medical Department, U. S. A.; Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. II. WASHINGTON, D. C., DECEMBER, 1899. NO. 10.

Treatment of Gonorrhea as Carried out in a Military Hospital During the Last Sixteen Years.

Vogl (*Muench. Med. Woch.*, August 1, 1899) reviews the different forms of treatment of gonorrhea which have been carried out in the military hospital at Munich since 1883. They include all those methods which are still in vogue as well as some which have been given up. Among the discarded remedies may be mentioned hydrochinon, iodoform, thalin, zinc, and sozoidolicum. Some of these were found useless, while others had a direct injurious effect. Later the opinion obtained ground that the character of the injection was indifferent so long as it was made in the right way. In the year 1893 the principles of Neisser were taken up and patients were treated by injections of solutions of nitrate of silver 1 to 5000. In the next year permanganate of potash, 1 to 4000 and zinc sulphocarbolate, 1 to 180, were tried. In the following year about 200 patients were treated with nitrate of silver of a strength of 1 to 3000, while ice-bags were applied if there was an excessive degree of inflammation. In the year 1897, 36 patients were treated with protargol, and the results of treatment when begun sufficiently early were quite satisfactory. Looking back over the records of this long period, the author finds that the average duration of treatment in the days before the use of specific antigonorrheal remedies was about forty-five days. After the introduction of injections of nitrate of silver the average duration was forty-five to forty-seven days. Niessen, who was in charge of the hospital in 1896 and 1897, and who treated patients with various silver salts, reported an average duration of treatment of only forty days, but he discharged twenty men as not cured. In the following year, when the patients were treated with nitrate of silver, potash permanganate, and later with protargol, the average duration of treatment was forty-two days, but seven men were discharged uncured. In the light of these statistics the newer remedies do not seem to be much of an improvement over the older plan of hygienic and dietetic treatment—absolute rest, milk diet, and the application of cold in the acute stages. The duration of gonorrhea depends for the most part upon the condition of the individual who has been infected. It is certain that the specific remedies have failed to fulfil the hopes of their early advocates.—*Medical News*, N. Y., 1899, lxxv, 688.

The Typhoid Fever of Malarial Countries.

Dr. W. Forbes-Leslie (*The Lancet*, October 28) believes the intestine to be a tube formed for the passage of certain substances, and fitted throughout with the complicated and highly efficient means of absorption and rejection. Colonies of bacteria here produce septic materials in the form of spores or ferments which, being highly absorbable, pass through the walls of the intestine into

the blood-stream, and set up the clinical parallels of the disease which they originate. Now, nature is above all things preservative, and all her ideas are highly efficient to this end. She must have a means of preventing this invasion of noxious elements, though it seems that the intestines exert a selective power, and act toward all substances as a simple membrane; it is in the liver we must look for this filter, this barrier between the primae viæ and the vital fluid. Certain eminent authorities believe that the liver has this function. It seems that glycogen has an important function in this respect, for there is an intimate relation between glycogen and the onset of disease, as causes which are most fruitful in diminishing this substance are those which predispose to disease. Thus it may be that the poison gains entrance to the blood, and with it in due course the spores of the disease. But after a time these are rejected and thrown out into the intestine, and become formed bacteria, to develop and disperse other poison till death supervenes. It is probable, also, that most intestinal pathogenic colonies can increase in this way as well as by fission, without further introduction, from the virginal infection, and in face of this intestinal focus of disease, with its continued increase from the blood, one can see how important is the question of intestinal absorption and the necessity of destroying the constantly renewed foci by sweeping out the primæ viæ by strong remedies. Of these none is better than calomel, for in the early stages, and when judiciously used, it will cut short the disease. Calomel has two virtues—the effect of antisepticizing the tract and promoting the flow of bile, and sweeping out most naturally all offending materials. This treatment should be continued for several days till the blood is free fom further infection. Then it remains to heal the ulcer left by the colonies of bacteria, and this will be better insured by a mixture containing chlorate of potash, quinine, and hydrochloric acid; this evolves chlorine gas, which has an antiseptic effect upon the intestines. Plenty of milk and soda water should be given, with stimulants in moderation, and when there are signs of weakness chicken-broth or beef-tea.—*Medical Record, N. Y.*, 1899, lvi, 738.

The Medical Service of the Army.

Surgeon-General Sternberg has favored us with a copy of his report to the secretary of war for the fiscal year ending June 30, 1899, dated October 12. It is a voluminous document, and the limitations of our space will admit of our mentioning only a few of its features. Naturally, the most interesting part of the report, from the professional point of view, is the section devoted to the health of the army. It is based upon only a fair representation in the form of sick reports, as regards the volunteers, for some of the regimental surgeons in Cuba failed to furnish such reports for July and August, 1898. There is satisfactory evidence in this part of the report that the mortality for the year, whether from sickness or from injuries, was far smaller than was to be expected under the stress of the hasty improvisation of a volunteer force sufficient to undertake the task of wresting Cuba from Spain. In particular, the number of deaths from yellow fever fell decidedly below what had been expected. Typhoid fever proved to be the leading cause of mortality, but in no instance was its access to a camp or garrison shown to have taken place by way of the regular water supply.

The surgeon-general remarks that at the outbreak of the recent war the purity of water supplies for troops in the field was a subject to which much consideration was given. What was desired was a sterile water, a water free from all bacterial infection. Boiling was the readiest way by which a drinking water could be sterilized; but it was found difficult without special facilities to provide boiled water for a marching command, and, moreover, many soldiers have a distaste for boiled water on account of its flatness from loss of the gases held in solution in the fresh water. By

a combination of an asbestos strainer and a filtering cylinder of compact infusorial earth, the surgeon-general had hoped to be able to provide a means, at once portable and efficient, for rendering an infected water harmless. This combination was sent to some of the commands for trial. They were brought into service at Camp Meade, Pennsylvania, not because the water there required this filtration, but with a view to familiarize the command with the method of using the filters. Some were used at Chickamauga Park, Georgia, and a few were seen by the inspectors in company kitchens at Montauk Point, Long Island. They answered their purpose very well when used intelligently and carefully handled. They were largely employed at those field hospitals which had to make use of surface waters, and occasional mention was made of them in reports from the temporary camps established on the occupancy of Cuba. At length a board of medical officers appointed for the purpose reviewed the various methods suggested, and tested the apparatus presented by manufacturers, and in its report described and approved of a rapid and economical method of sterilization by the Waterhouse-Forbes water sterilizer. The heat given out by the boiled water is utilized in heating the entering fresh water. The boiled and aerated water is delivered from the apparatus at a temperature only 4.5° F. above that of the entering water. It has been recommended that a number of these sterilizers be sent out for practical test by troops in the field. General Sternberg highly recommends the construction of regular sewers for camps, but he says that if such a system is considered objectionable on the score of expense or for any other reason, a trough arrangement for trap and disinfection purposes, with removal of the excreta by pneumatic pressure, may be resorted to, as has been done with satisfactory results at the Presidio and at Camp Meade.

Concerning the food supplies issued to the army during the war, in spite of all the sensational newspapers had to say about "embalmed beef", there were on file at the time in the surgeon-general's office only two papers referring to beef supplies. One of these was a statement concerning the poor quality of the native Hawaiian beef issued to the troops in Honolulu. The other was a report of a voyage made by the Panama with sick and convalescents from Ponce to Fort Monroe, in which the medical officer stated incidentally that the refrigerated beef which he had received from the subsistence department had proved of great value during the trip. The surgeon-general does not think it necessary to change the present army ration in order to meet the requirements of tropical climates, for the articles not used are credited to the men, and their money value can be employed for the purchase of articles found more desirable.

As to the men's clothing, the blue uniform of the regulars was universally condemned as too heavy for tropical campaigning, and the woolen undershirts as occasioning much irritation of the skin. So, too, canvas suits were found unpleasantly stiff and heavy until they had been washed several times, and the like complaint was made of khaki. It was the general experience that a light woolen undershirt was essential to prevent chilling of the body, also drawers of the same material, although some medical officers consider cotton to be preferable. A white duck uniform is recommended for garrison duty, and the khaki suit for field service. It was thought at first that the campaign hat was too heavy, and that the helmet used by the British troops in India was the best protection for the head in tropical countries, but longer experience, particularly after the rainy season set in, showed the American hat to have advantages not possessed by other forms of headgear. There were no complaints concerning socks or shoes, so they are assumed to have been entirely satisfactory.

The report closes with the following recommendations: "The medical corps of the army, which was scarcely adequate before the war with Spain for our army of twenty-five thousand men, is now en-

tirely inadequate and should be increased as soon as is practicable. Physicians and surgeons from civil life, however well qualified professionally, as a rule are not prepared to assume the responsibilities of medical officers charged with administrative duties and the sanitary supervision of camps. The proper performance of such duties can not be expected from a physician without military training or experience, no matter how distinguished a position he may have held in civil life. Many of the commissioned medical officers of the volunteer army and of the acting assistant surgeons have made rapid progress in acquiring a knowledge of their military duties and have demonstrated their fitness for the military service. In filling vacancies in the medical corps these gentlemen should, in my opinion, have the preference when they come within the established age limit and are able to pass a satisfactory professional and physical examination. The value of the aphorism 'In time of peace prepare for war' has received additional support during our recent experience. This preparation should include a corps of trained medical officers larger than is absolutely necessary for the army on a peace basis, and systematic instruction in military medicine and hygiene for the medical officers of the national guard as well as for those of the regular army ; also instruction of line officers in the elements of hygiene and especially in camp sanitation. It should also include the establishment of camping grounds in various parts of the country, having an ample supply of pure water, a proper system of sewers, etc. If our volunteers could have been assembled in such camps during the late war, a saving in lives and money would have resulted which would, without doubt, have demonstrated the economy of such preparation for war in time of peace."

In addition to his onerous official responsibilities, Surgeon-General Sternberg had a great deal to bear during the Spanish-American war in the way of abusive newspaper criticism. It is certain now, as we maintained at the time, that he managed the affairs of his bureau with intelligence, skill, and devotion to the public interests. Far from deserving rebuke, he has earned the gratitude of the nation. *N. Y. Medical Journal*, 1899, lxx, 783.

A Type of Tropical Fever.

By Dr. L. L. von Wedekind (*N. Y. Med. Rec.*, lvi, No. 8, p. 253).

This fever is very common among the unacclimated in tropical Spanish countries, and is known as "Calentura." There are few or no prodromal symptoms. The onset is sudden. There may, or may not be, chilliness. The temperature goes to 102° or 103° F., and gradually increases to 104° or 105° F. There are myalgic pains, cephalalgia, anorexia, and a marked asthenia with gastric disturbances. With no treatment, the case convalesces in seven days. Quinine has practically no effect. Cold reduces the temperature only temporarily.

The best treatment is at first small doses of calomel, followed by a brisk saline purge. Following this, tr. aconite gtt. iv. every two hours, for three, four or five doses, according to the symptoms.

Myalgia is relieved by an opiate at night.

Next day the temperature is normal and remains so.

A cold bath and the patient in bed for three or four days, and he is well.

The cause of calentura is due to the direct rays of the the sun. Those who do not expose themselves do not have the fever.

Search for the plasmodium has proved negative.—*The Post-Graduate*, N. Y., 1899, xiv, 907.

Ethyl Bromide as an Anesthetic in Minor Surgery.

The *Maryland Medical Journal* of September 2, 1899, contains an article by Kempter upon bromide of ethyl. As regards its mode of administration, Dr. Kempter says he follows the plan of Dr. Chisolm. He uses a crash towel, folded in the shape of an airtight cone, rendering it impervious by a layer of paper,

the base of the cone being sufficiently wide to cover both nose and mouth. He pours the full dose required to produce anesthesia into the inhaler, the dose in children ranging from one to two and one-half drachms, and in adults from two to three drachms. He immediately covers the patient's nose and mouth, having previously instructed the patient to breathe deeply.

Having once applied the inhaler, he holds it down firmly, removing it only from the face when full anesthesia has been induced, which is recognized by the stopping of all struggling on the part of the patient. The patient may feel himself stifled; there need be no fear of causing asphyxia. Children struggle to escape from the inhaler; the cone, however, must not be removed for one instant from the face until full anesthesia has been produced. Should children cry it favors deep inspiration, which will assist in the anesthesia. Some hold their breath, but there is no danger that they will not "catch it" in time.

To the uninitiated it appears that the patient is being asphyxiated, and it impresses them as rather a barbarous procedure to keep the inhaler over a sometimes violently struggling patient. The cone must not be removed, for in no other way can rapid and safe anesthesia be obtained by ethyl bromide.

The time required to induce complete anesthesia depends upon the number and depth of inspirations taken. Generally speaking, one minute will induce deep narcosis.

Nausea or vomiting is of rare occurrence during its administration or at the period of deep anesthesia, which usually lasts about one and one-half minutes, rarely longer than two minutes. In most cases neither heartbeat nor pulse is influenced by ethyl bromide anesthesia.

The increase in pulse frequency is due to anxiety and fear and to the struggling of the patient but after narcosis sets in it reaches its normal beat. The corneal reflex is present, with primary dilatation of pupil; the healthy color of the lips and skin is usually retained.

The patient awakes suddenly as if from a natural sleep, without loss of coordination and with a perfectly clear brain.

Dyspnea, short respiratory movement, and respiratory pause are unusual complications. Some after-effects, such as headache, somnolence, and amaurosis, have been noted.

Witzel, a German investigator, in 465 cases of ethyl bromide anesthesia mentions the occurrence of profuse perspiration in four cases and strangury in three cases.

The death-rate by the use of ethyl bromide as compared with chloroform and ether is summed up by a series of reports made at the Surgical Congress convening annually at Berlin. These reports cover a period of seven years, from 1890 to 1897, the mortality-rate being summed up as follows: Chloroform, 2023 cases, one death; ether, 5090 cases, one death; ethyl bromide, 5228 cases, one death.

Reich, a German authority, estimates sixteen deaths in 60,000 cases of ethyl bromide anesthesia. These figures are given in Dr. Ernst Hankel's Handbook of Artificial Anesthesia, Leipzig, 1898.

If we do not permit ourselves to be intimidated by the pessimistic accounts that one reads in the average text-book about ethyl bromide, and follow certain practical rules, danger from this form of anesthesia need not be feared.

The adult dose should not exceed three dra hms. Owing to its volatile properties and liability to decomposition, the inhaler should be applied immediately and retained to the patient's nose and mouth till full anesthesia has been induced. Under no circumstances should the inhaler be removed for the purpose of prolonging the anesthesia.

A fresh preparation should be used. Exposure to light or air decomposes ethyl bromide and results in the formation of compounds having a more toxic effect than ethyl bromide. *Therepeutic Gazette*, Phila., 1899, xxiii, 764.

Effect of Bullet Wounds in South Africa.

The New York *Times* says: "Some of the wounds inflicted on the British soldiers are of an extraordinary nature.

The Mauser bullet makes a clean perforation of bone and muscle. Soldiers shot through both cheek-bones have lost the sense of smell and taste, but are otherwise quite well. Most of the wounds are in the hands and arms."—*Medical Record*, N. Y., 1899, lvi. 808.

On the Method of Operating for Umbilical Hernia, Whether for Radical Cure or When Strangulation has Occurred.

Marsh (*British Medical Journal*, June 17, 1899,) after describing the method of radical cure for umbilical hernia in common use, expresses his conviction that this proceeding may be altered in two particulars, with the result that it occupies less time, is more easy, and, as experience shows, safer for the patient.

The first point concerns the treatment of the sac; the second the management of the adherent omentum. As to the sac; as a first step (originally suggested by Mr. Treves) this is stripped entirely of all the surrounding tissues and completely isolated down to the opening through which it leaves the abdomen—that is, to the level of the linea alba.

The isolation of the sac is thus effected. A curved incision starting from the middie line above is carried over the right side of the swelling to the middle line below, and a similar incision is made on the left side, the two together forming an elliptical wound. These two incisions are so planned that they include the skin which covers all the front of the swelling, only enough being left to allow of the closure of the wound, without tension, in the middle line, when the hernia shall have been reduced and the sac removed. Next, the whole thickness of the subcutaneous fat is separated on either side from the outer surface of the sac, including its neck. This is easily carried out by a sweep of the finger and a few touches of the knife.

The operator now has the hernial sac and its contents clearly defined and under control. The sac is opened by an incision in the middle line long enough to afford free access to its interior. The omentum—any part of which not in the neighborhood of the neck of the sac may be freely divided, provided it has been first tied or securely clamped above and below—is unfolded and the intestine exposed. This, when such adhesions as tether it within the sac have been divided, is returned. In cases in which extensive and firm adhesions have formed between the intestine and the omentum of the sac, it is safer and quicker to cut through these structures at a little distance from the gut, so that portions are left adherent to it, than to insist in dissecting them off. The intestine having been returned into the abdominal cavity, the omentum is taken in hand.

In dealing with this structure, the usual method is to detach it at what may be termed its periphery from the sac wherever it is adherent. This, if the hernia is large and the adhesions are extensive, is a tedious proceeding which occupies considerable time. The following is a more expeditious method: The operator makes his way to the omentum where its neck emerges from the abdomen. This neck or stem he defines and isolates so that he can pass his finger completely around it. If it is adherent to the ring the adhesions must be separated. The stem is now tied in strands in the usual way, divided beyond the ligatures, and returned into the abdomen. There will now remain the sac, containing, perhaps, a large mass of more or less adherent omentum. The sac is cut away by dividing its neck at the level of the ring. Its edges are brought together with sutures, and the peritoneal cavity is thus closed. The ring itself is next obliterated by strong buried sutures, and the external wound is closed.

Marsh states that during the last three years he has performed the operation he has endeavored to describe nine times—four times for radical cure, and five times for the relief of strangulation. All the patients recovered. Two patients, in whom strangulation had existed for three or four days respectively, were in a grave condition for the first twenty-four hours. The remainder bore the operation well, and gave no anxiety from the first.—*Therapeutic Gazette*, 1899, xxiii, 673.

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THE MILITARY SURGEON

A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Captain, Medical Department, U. S. A.; Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. II. WASHINGTON, D. C., JANUARY, 1900. NO. 11.

Proposed Legislation for the Medical Department of the U. S. Army.

Bill for the Increase of the Medical Department of the Army.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,

Sec. 1. That there shall be added to the number of medical officers of the Army now authorized by law, four assistant surgeons general with the rank of colonel, ten deputy surgeons general with the rank of lieutenant colonel, thirty surgeons with the rank of major, and eighty assistant surgeons with the rank of first lieutenant who shall have the rank of captain at the expiration of five years service as now provided by law. Provided, that the original vacancies created by this act in the grade of colonel, lieutenant colonel and major shall be filled by seniority promotion in accordance with established laws and regulations.

Sec. 2. Hereafter candidates for appointment in the medical corps of the Army who pass a medical examining board in compliance with the existing regulations, shall be appointed acting assistant surgeons for a probationary period of six months: during this probationary period they shall attend the Army Medical School established at the Army Medical Museum in the City of Washington, and the faculty of the Army Medical School shall report to the Secretary of War at the end of the prescribed course of instruction upon the fitness and relative standing of the probationary candidates; those who are recommended by the faculty may then be commissioned by the President to fill existing vacancies in the medical corps of the Army.

Sec. 3. Acting assistant surgeons appointed in accordance with the provisions of Section 2 shall be paid $100.00 per month and shall not be entitled to any allowances or to mileage in reporting for the prescribed course of instruction, or in returning to their homes if they are not recommended for a commission.

Sec. 4. The number of acting assistant surgeons appointed in accordance with the provisions of Section 2 shall not exceed the number of vacancies existing or to result from retirements during the probationary period.

Sec. 5. Candidates who have rendered satisfactory service as acting assistant surgeons or as commissioned medical officers in the Volunteer Army of the United States for a period of six months or more, shall be exempted from this period of probation and may be commissioned at once if vacancies exist and they pass a satisfactory examination as to their physical, moral and professional qualifications.

Bill for the Relief of Assistant Surgeons With the Rank of Captain in the Volunteer Army of the United States.

Be it enacted by the Senate and House of Representatives of the United States in Congress assembled, that Assistant Surgeons in the Volunteer Army of the United States commissioned by the President as Captains, in accordance with the provisions of an Act for increasing the efficiency of the Army of the United States and for other purposes (approved March 2, 1899), are entitled to the pay of a "Captain mounted" from the date of their acceptance of such commission as prescribed by law.

Bill for the Relief of Acting Assistant Surgeons in the U. S. Army.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Sec. 1. That on and after the passage of this Act Acting Assistant Surgeons in the Army of the United States shall have the same rights and privileges as regards leaves of absence as commissioned officers of the army.

Sec. 2. Acting Assistant Surgeons in the Army of the United States who have been appointed since the first day of May, 1898, who have been absent from duty, by proper authority, on account of sickness contracted in the service shall be paid for the time of such absence at the rate per month specified in their contracts.

The Health of the Army.

In his annual report, Secretary of War Root compliments the medical and commissary departments of the army for efficient service rendered during and since the war. "The health of the army from the beginning of the Spanish war has," he says, "been remarkably good. The deaths from all causes (including casualties in action) in the whole army, regulars and volunteers, for the fourteen months from May, 1898, to June, 1899, inclusive, were 6,619. This is equivalent to an annual rate of 33.03 per 1,000 of strength. The deaths from disease during the whole period were at an annual rate of but 25.68 per 1.000. . . . For an army largely drawn from a cold climate and transported suddenly to the tropics, mainly composed of new recruits not trained to care for themselves in camp or on the march, and a great part of which was stationed in a malarial country or quartered in and about cities infected with yellow fever, and especially adapted to the production of typhoid, this is an extraordinary result and reflects credit upon all the branches of the service engaged in clothing, feeding, and caring for the men. The significance of the annual rate of death from disease in the Philippines (17.20 per 1,000) may be better appreciated by comparison with the rates in some of our well known American cities. The annual death rate per 1,000 is in Washington 20.74, in Boston 20.09, in San Francisco 19.41, in New York 19.28, and in Baltimore 19.10."—*Med. Rec.*, N. Y., 1899, lvi, 900.

More Medical Officers in the United States Army.

Surgeon-General Sternberg has prepared a bill for presentation to Congress providing for an increase of men in the Medical Department of the Army. This increase is necessitated by the expansion in the military organization. The bill provides for an addition to the present corps of four assistant surgeon-generals with the rank of colonel; ten deputy surgeon-generals with the rank of lieutenant-colonel; thirty surgeons with the rank of major; and eighty assistant-surgeons with the rank of lieutenant, who will have the rank of captain at the expiration of five year's service. These positions are to be filled by seniority promotion in accordance with the established laws and regulations. Acting assistant-surgeons to the number authorized are to be appointed subject to the usual examination for a probationary period of six months, during which they will attend the Army Medical School in Washington. At the end of this time if their standing is satisfactory they will be commissioned to fill existing vacancies. *Medical News*, N. Y., 1899, lxxv, 806.

Legislation for the Medical Department of the Army.

(Editorial from *N. Y. Med. Journal* of December 9, 1899.)

The Surgeon General of the Army has favored us with the text of a bill which he will submit to Congress at this session. This bill is to increase the efficiency of the Medical Department both by increasing its size and by virtue of certain provisions which relate to the entrance of candidates into the corps. At present the Medical Department of the Army has a total of one hundred and ninety-two medical officers. In addition to these there are at present in the service some four hundred civilian physicians serving under contract. The proposed bill will, if passed, authorize an increase of one hundred and twenty-four regular medical officers properly apportioned among the different grades. This increase is required both on account of the present necessities of the service and for future emergencies in case of war.

It is the policy of this government to depend for its armed force upon a regular army sufficient in size for the needs of peace and to act as a nucleus about which may be congregated the volunteer forces in time of war. This being the case, it is evident that the regular army in all its branches should be sufficient in numbers and efficiency to meet the requirements not only of a perfect organization in time of peace, but of expansion in time of necessity. With the advance of civilization and the consequent specialization of labor, the Army like all other branches of national life, has become highly specialized. The time is past when men could lay aside the implements of the workshop and the field and, congregating together form effective fighting forces. The armies of today, from their size, their complexity of organization, and the multiplicity of detail necessary to their mobilization and support, require trained men and special means to insure their maintenance and efficiency. The military man, therefore, whether of line or staff, n any of its branches, is essentially a specialist, a specialist who has studied and who practices all means and methods toward the definite end of making an aggregation of men an effective offensive or defensive force. This being the case, the effectiveness of the force depends upon the efficiency of its directing or working units, and it can be efficient only in so far as those units are trained and capable of working together towards the definite end.

The Medical Department of the Army is not alone for the succor of the sick and wounded. This is one of its great functions, but its greater function is to maintain the fighting force at its highest efficiency by preventing, so far as possible, disability of the individual members of the force by sickness. It necessarily follows that the military surgeon is not only a medical and surgical practitioner, but a sanitarian. And not only is he a physician, surgeon and sanitarian but an executive officer as well. The organization of a medical department requires divisions and sub-divisions of authority by which its efficient working may be maintained. It follows that, however great the ability of the civil practitioner may be, he cannot enter upon and immediately perform with efficiency the duties of a military medical officer. The questions of sanitation and hygiene which come up in the military service are peculiar and unlike those of civil life. The aggregation of large numbers of men in camp and field calls for special knowledge of hygiene and sanitation relative to conditions which the civil practitioner never meets with. Then, too, in time of war large general hospitals have to be established, which require for their efficiency a high order of executive and administrative ability on the part of the surgeons in command. Executive and administrative abilities of a high order are also called for in all the higher branches of the medical department, and these branches cannot be properly administered except by men conversant with the complex methods incident to a highly specialized organization. For these reasons the medical department as an effective nucleus should

not only be sufficient in size for the immediate working of a standing army, but large enough to be the directing force when volunteer forces are added until these latter forces can be trained to the proper point.

The number of officers in the Medical Department of the Army is now so small that it barely sufficed for the needs of the Army when on a peace basis, before the war with Spain, and was utterly inadequate in number to serve efficiently as a nucleus for organization when the Army was increased. Now the increase in our coast defense has led to the establishment of eighteen posts in the Department of the East and ten on the Pacific Coast, and a number of new posts have been established in the Hawaiian Islands and in Puerto Rico. To these are to be added a large number of stations, more or less permanent, in Cuba and in the Philippine Islands. The increase in number of the medical corps is therefore required, not only to meet the exigencies which now obtain in the service, but to provide a nucleus in case of future war.

The sections of the bill which relate to the appointment of candidates in the Medical Department provide for a probationary period of six months. During this probationary period the candidates are to attend the Army Medical School established in the city of Washington, and at the end of the prescribed period the faculty of the school will report to the Secretary of War upon the fitness and relative standing of the probationary candidates. Those of the candidates who are recommended by the faculty will then be commissioned by the President to fill existing vacancies in the Medical Corps of the Army. It is further provided that candidates who have rendered satisfactory service as acting assistant surgeons or as commissioned medical officers in the Volunteer Army of the United States for a period of six months or more shall be exempt from this period of probation. The reason for a probationary poriod is not only that the candidate may receive instruction in the duties of medical officers while at the Army Medical School, but that his fitness for a position in the Medical Department may be better determined than by a single brief examination which is all that is now required for entry into the corps.

It seems to us that the bill as presented is an altogether wise and most necessary one, and we cordially recommend it to the approval and support of the profession at large. The Medical Department of the United States Army is recruited from the profession throughout the country. In its ranks are representatives from all the leading medical colleges of the United States. For this reason it is in many respects a representative body, and the dignity and standing of the profession at large are affected either for good or for ill by the efficiency or inefficiency with which the Medical Department of the Army performs its work. More than that, the efficiency of the Medical Department of the Army is a matter of national importance, for the lives and welfare of the individual members of the Army, and the efficiency of the Army as a whole, depend in large degree upon the efficiency with which this Department is administered and worked. We would therefore recommend all possible effort on the part of the profession to further the passage of the bill.

The "Flexion" Style of Marching.

The above caption forms the title of an editorial in a recent issue of the *New York Medical Journal*, which gives credit to the *Army and Navy Journal*, describing this new method of pedal progression in the following terms: "The style is so new that there is no text-book on the market yet, but several French writers give the following general idea of the body movements: The knees must be always bent, the feet lifted no higher than necessary to clear the inequalities of the ground; the advancing foot must be placed flat on the ground, the step being made neither by the toe nor by the heel. The footfall should be noiseless, and the steps at first short and frequent. The body must lean well forward, the back must be straight and the head erect, the chest open and the should-

ers low. It is recommended that when at drill a short stick be held with both hands in front of the chest. The lessons should not be more frequent than two or three times a week. A table is given of the distance to be traversed in each of the thirty-six lessons, beginning with three thousand yards and going up to twelves thousand; also showing how in the early lessons ten minutes is allowed for the first kilometer, nine and a half for the second, and seven and three-quarters for the third; these times steadily diminish with each lesson as the pace increases, until finally the first kilometer, or five-eighths of a mile, is traveled in seven and three-quarter minutes, the second in six and a quarter, and the third in five and three-quarters. Now, one kilometer in five and three quarter minutes is a good six and a half miles an hour." It is stated that a three-months' drill is necessary to learn the "flexion" march.

The *Journal* goes on to give some of the experiences made with this new form of marching, which show that it is much less fatiguing than that usually employed, and it is not a run, as some might suppose from the rapidity with which it carries a person over the ground. The essential feature in running is that both feet are off the ground at the same time, during the stride, this is not the case with this new style of marching. It is stated that in an experiment made with thirty men two officers, and two sergeants, they covered a distance, carrying rifles, bayonets, and one hundred rounds of ammunition per man with food for one meal, along a hilly road of twelve miles at the rate of a trifle over seven miles an hour.

There is nothing new in this discovery of the French army; this style of marching has been in vogue among the American Indians since they have been known to the white man. The forward stoop of the Indian in walking is favored by his peculiar foot-covering. It has also been noted that a body of Indians in marching have no tread, in the ordinary military acceptance of the term. While they keep step in marching in single file, yet the forward planting of the foot is done so lightly that there is no perceptible jar from the step. It is only when the human foot is deformed by the perversities of the modern shoemaker that walking is made such a difficult and laborious process. The high heels and narrow toes, by which the foot muscles are practically thrown out of use, make it necessary to adopt a more erect stride, with a thrusting forward of the foot and bringing down of the heel as the part which touches the ground first, and in rapid walking necessarily imparts a jar to the entire leg. This style of marching by a body of men produces the peculiar pounding, which when performed in perfect unison endangers the integrity of even the strongest bridges. This leads to the order to "break step" when troops are crossing structures of doubtful integrity. This "flexion," or what should be termed Indian style of marching, is but a reversion to an earlier type, and if it is adopted in military practice should lead to a more perfect foot-covering, one which admits of a spreading of the toes and the exercise of the prehensile power of the foot, the same as does the Indian moccasin. *Medicine*, Detroit, 1899, v, 1010.

Medical Matters in the South African War.

The American committee to aid Red Cross work in the South African war has arranged to make use of the facilities offered by the Netherlands Red Cross, a responsible organization already in the field, insuring the prompt and effective use of every dollar contributed. According to a statement recently issued by the committee in this country, the Boers are badly in need of hospitals and hospital supplies, and it is to help make up that deficiency that the committee in the United States has been organized. The British army is well equipped with Red Cross facilities, but the Boers are almost wholly dependent upon volunteer physicians and surgeons, and on this account both the British and Boer wounded within the Boer lines must necessarily suffer. A party of medical

students left Edinburgh recently to go out to South Africa under the leadership of Dr. Neethling, of Bradford, to act as an ambulance party in aid of the Boers. The scheme is said to have originated in the South African Union in Edinburgh, and is said to be financed by Sir James Sivewright. The men are all Cape Colony born and bred, and British subjects, though almost all of Dutch extraction. A Russian medical journal comments approvingly on the latter circumstance, and remarks that it would be hard to find such an instance of liberty of action in any other country than the now much-abused England.

The lepers who are confined on Robben Island have opened a fund for the sick and wounded soldiers. They have forwarded their first donation to Governor Milner. The Queen has given a union jack to the hospital ship Maine as a sign of her gratification at the work of the American women who raised the funds for fitting out that vessel. The Duke of Connaught will present the flag on behalf of her majesty. There have been many complaints that the Boers have persisted in shelling the town hall at Ladysmith which was used as a hospital and flew the Red Cross flag. The correspondent of the London *Morning Post* says that Commandant Schalk-Burger was notified of this, but the notification produced only further fire. Altogether twelve hospital attendants have been wounded and one killed, the correspondent says. *The Daily News'* Ladysmith correspondent also reports that the Boers fired on the the hospital, and he adds that the fire was intentional, since the town hall is not in line with any important camp or defensive work. The Boers, he says, assert that they are entitled to restrict the British to one hospital. In one case in which the Boers had shelled a hospital, it was found that the gunners did not know it was a hospital, it being impossible for them to see the Red Cross flag, and it is probable that a similar error occurred in this instance. *Med. Rec.*, N. Y., 1899, lvi, 900.

Sugar Diet for Troops.

Germany has completed elaborate experiments with sugar as a food for troops. The object was to test the advantages of a sugar diet in cases where great exertions were to be made within a brief period of time. According to the reports of experiments in various army corps a favorable result has been secured. It is considered proven that a sugar diet increases muscular power in a comparatively short time, considerably shorter than does egg-albumen. The effect of the latter, however, is more lasting, though sugar has the advantage of being much cheaper. The great rapidity of sugar absorption explains its rapid effect on the nervous system, which is a matter of great importance in all cases where speedy recuperation is desired, as in long-distance marching. Artificial substitutes for sugar, such as saccharin, have not the same effect. These experiments were conducted by Professor Pfuhl, head of the Physiological Laboratory of the Army Department, and Professors Senator and Muck of Berlin University. Possibly these findings may induce General Sternberg to modify the ration of our troops in the Philippines, which, according to Dr. Seaman, is the same as that supplied our troops in Alaska. *Medical News*, N. Y., 1899, lxxv, 722.

The Soldier's Pocket Dressing in South Africa.

According to the *Medical Review of Reviews* for November, every soldier's kit on active service has a field dressing outfit sewed into a pocket on the inside of the jacket. The outfit consists of gauze, gauze bandage, compressed charpie, safety pins and a piece of mackintosh Directions for use are printed on the inside and outside covers. *N. Y. Medical Journal*, 1899, lxx, 907.

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THE MILITARY SURGEON

A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Captain, Medical Department, U. S. A.; Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. II. WASHINGTON, D. C., FEBRUARY, 1900. NO. 12.

Original Article.

THE TREATMENT OF DELIRIUM, WITH REPORT OF TWO UNIQUE CASES.

BY DR. JAMES S. KENNEDY,
Ass't. Surgeon, U. S. Army, Fort Sam Houston, San Antonio, Texas.

Frequently the busy practitioner who enjoys a lucrative practice has little time to read, apart from his professional duties, and frequently no more money than he knows what to do with; besides, he has not the means or inclination to purchase a copy of every new work on materia medica which appears upon the market.

To these gentlemen the medical journals are of incalulable value, furnishing them with the best thoughts of the profession, both in surgery and medicine, keeping them up to date in the latest discoveries in science. To these medical magazines we are indebted for everything until it is garnered into professional works. I want to speak to that class of wide awake, progressive physicians who, eschewing "specialties," are ready and willing at a moment's notice, to intelligently assume charge of any description of cases, and, what is more, skillfully and successfully carry it through to a favorable ending—be it to pull a tooth or amputate at the hip-joint—and do it better than a so-called specialist in the same line. Be his practice visiting the aristocracy with his thoroughbreds hitched to his fashionable drag, or to the hovel of the Hungarian miner in his two-wheeled sulky, he is frequently called upon to treat special nervous diseases, the results of wasted nerve force and broken down nerve centres, which have withstood the assault made upon them by the excesses of years, without rebellion. But finally the day of reckoning comes, when long abused nature will stand it no longer, and the danger signals are set, praying the intelligent professional man to enter the breach, and by advice and remedial measures to stop the cause and lengthen and prolong the devotee's life.

The pathology of an abused nervous system caused by years of excesses is in itself an extensive field for research, but, in an article of this length, the merest "coup-d'œil" is possible.

In a case which was brought to me for treatment the anæsthetic condition

of the sensorium was so pronounced that the complete unconsciousness to pain was remarkable. Hence a description of it was thought advisable for the benefit of our brother physicians.

The patient, male, aged 34 years, had been employed as a brakeman on a freight train, and was subject to spasmodic outbreaks of periodical and prolonged debauches. He was peculiar in his tastes for liquor, in that he would drink nothing but the insidious cocktail, saturated with absinth, and in consequence the cerebral subcentres had for days been drawn to such exquisite tension that nature would brook no longer, and collapse was the result. Coupled with this there were the peculiar psychical phenomena of complete muscular anæsthesia, and prolonged insomnia which lasted over one hundred and seventy-two hours, or a little over a week. The symptoms were as follows, and formed a peculiar chain of phenomena which was without precedent in a practice of over twenty years. There was intense wakefulness; stertorous breathing; red swollen tongue; the stomach refused food, liquid or solid; temperature 106°, with jactitation and subsultus tendinum; pupils widely dilated; complete loss of power over the sphincters of the bladder and rectum; irregularity of pulse and heart action, with total abolishment of all sensation, so complete that needles could be passed through the lobes of both ears, and the skin transfixed between the intercostal spaces, without any appreciable pain. These forming a group of symptoms which so alarmed his family that the relatives had gathered at his bedside to see him breathe his last.

The skin was profusely covered with clammy perspiration which oozed from every pore; the eyes staring and turned backward in their orbits, making a fearful picture of the dire results of an unbridled passion for alcoholic stimulants.

The treatment consisted of iced bags to the shaved head, mustard to the spinal column and over the region of the heart, hot water bottles to the feet, and the internal administration of the usual calmatives, but which produced no apparent results. Day by day passed with no amelioration in his condition; soup, beeftea and bovinine were administered, and stimulants subcutaneously injected with injections per rectum, etc., until all my resources were at an end, and a brother physician was called in consultation. As a last resort trional was advised mixed with hot glycerine, 20 grains to one ounce of the latter at one dose. The stomach was first prepared for the reception of the trional by thoroughly washing it out with a solution of salt water as hot as could be used. The mixture was given every two hours, and the effect of the first dose was wonderful. The patient after the third interval commenced to improve, and when Death on the white horse had looked in at the window, Hope entered the door. His eye took on an intelligent expression, and after the first continuous three hours sleep (for over one hundred and seventy-two hours) the jactitation ceased, the subsultus tendinum disappeared, and for the next twelve hours semi-consciousness alternated with periods of intelligence. At the expiration of the 8th day the pulse fell to 96, and the temperature to 101 2-5°. With the trional brandy was subcutaneously injected, alternating with 1-40 grain of strychnia sulphate every four hours. I was afraid of the ultimate failure of the heart after the reaction set in, but after placing one drop of a one per cent. solution on his tongue

every hour the pulse became much stronger and more regular.

Just here I would like to call the attention of my brother physicians to the fact that one drop of a one per cent. solution on the tongue will act with equal rapidity as a hypodermic injection of the same amount. Try it. I do not pretend to explain the modus operandi of its action in these special cases. That trional was well borne and the first remedial agent to be retained on the stomach in all these hours of helplessness and anxiety is, however, a settled fact in my mind.

After the fourth sleep of several hours duration the dose of trional was reduced to five grains every four hours, which was sufficient to keep up the physiological effect, while at the same time bovinine, brandy, milk, and strychnia were continued until convalescence was established. Everyone who witnessed the attack considered that it was a brand plucked from the burning.

In view of the fact as stated in the latest edition of the United States Dispensatory that trional is probably the "most used" of modern hypnotics, it greatly redounds to the safety of this drug that in the voluminous literature published but nine cases of poisoning are on record, only three resulting fatally. It is doubtful in how far trional can be held accountable for these poisonous effects, since some of the patients were suffering from severe organic diseases which in themselves were sufficient to cause death, while in the others the drug had been given uninterruptedly in excessive doses. No death from a single large dose is on record. It must be remembered, however, that there are certain persons who present an idiosyncrasy against certain medicaments, and this applies not only to trional but to any drug in the materia medica. If employed according to the well-established rules of administration after-effects are but rarely experienced. The fact that the great majority of clinicians find that trional is devoid of any depressing action upon the heart, gives it a great advantage over other hypnotics in cases of cardiac affections. The significance of hematoporphyrinuria in connection with the administration of trional has been greatly exaggerated. This condition has been observed in many cases in which neither sulfonal nor trional have been employed, and its occurrence can be entirely prevented by the use of alkalies during the prolonged administration of trional, and by avoiding constipation by means of proper remedies.

The certainty of its physiological action places trional among the reliable calmative agents, and as a sleep promoter in all cases of nervous exhaustion it has no equal; and the fact that it does not endanger the patient to a life-long drug habit makes it just that much more valuable. It is fixed on a pinnacle far above others of its class, and it is a par excellence the hypnotic of all hypnotics, as it does not disturb the alimentary canal, and unlike some others it does not lock up the important secretions. Another recommendation of interest is that it has no effect on the peristaltic action of the bowels, and if it does anything it rather increases it.

The patient whose case I have just mentioned was quite a while in recovering his accustomed strength, the trional being discontinued in the daytime and one dose of ten grains given at 10 p. m. followed by a second of five grains at 10:30 p. m. This always produced a quiet dreamless sleep of about eight

hours, and on awakening I noticed the absence of that drowsiness which always follows morphia.

A second interesting case came under my notice in which trional was so beneficial that it is worth narrating in this connection :

B. J., aged 42 years, by occupation a bridge builder, and accustomed to overseeing work on high structures. He had spent years at his trade, and his daily familiarity with danger caused the usual contempt for the safe-guards of which younger men were glad to avail themselves. But, as customary in all such cases, the day came when he stepped on the wrong end of a piece of scaffolding, and was pitched head first into a ravine, where he landed on his head on the frozen ground, being picked up unconscious and carried to the City Hospital. After two days of unconsciousness he regained his mind as we all imagined, but seemed to be continually in a strange state of exhilaration resembling that of alcoholic intoxication There was no evidence of fracture of the cranium. The third morning the nurse reported that he had not slept a moment, nor had he asked for anything, or tried to talk. He simply remained staring into vacancy with a marked grin upon his face, or rather it resembled a snarl, with teeth showing and lips drawn apart, as one has seen an angry dog. This put me on my guard at once. A careful examination was made of him. The urine being examined showed a slight trace of albumin, and was highly colored and scanty in quantity. The temperature was subnormal, but afterward ranged between 104 degrees in the morning and 105 degrees in the evening, with a rapid and weak pulse. The pupils were contracted to a pin's point, and almost insensible to light. There was total loss of control of the bladder and rectum. The ta ing of liquid food was difficult ; it would be held or remain in the buccal cavity for several moments, then seemed to trickle into the stomach of its own volition, without any apparent effort of the patient. He would not rest in a recumbent position, but seemed more comfortable propped up in bed. The expression of his face was painful to witness, and the beseeching look of intelligence which for a fleeting moment would appear. so worked on the sympathies of the other patients that they requested that a screen be placed between them and him. No word or sound could be gotten from him, nor any notice taken of his near and dear friends who visited him. On the fourth night of this peculiar condition of affairs, he suddenly sprang from his bed and in a moment was a raging maniac, requiring four male nurses to subdue him and place him in a straight-jacket. Poor over-taxed nature had at last given away under the strain, and confinement in a jacket was found necessary to protect him from himself and to prevent harm to others. It was a sad but fascinating sight to see this man in a condition of intense excitement as far as his muscular system was concerned, but all in perfect silence, save the hard breathing from his active exertions. Not a word or sound escaped from his lips ; and as had been noticed before his dearest friends in health seemed to be his deadliest enemies in disease. No one could be allowed near him, and during all these hours not once did he close an eye in sleep. He was strongly built, a college athlete in his younger days ; every muscle well developed by the active duties of his calling, but this soon gave place to extreme exhaustion, caused

as much by his continued exertion to free himself from the straps as from the action of the disease. No sleep, however, ensued. He was nourished by enemas of soup, beeftea, bovinine, stimulants, milk, etc. Morphia was given subcutaneously, but was of no avail; it seemed to add to his excitement. Finally chloroform was used, and during its influence a stomach tube was introduced into the stomach, the contents evacuated by pump, and the mixture of trional and glycerine introduced as before described. This remained but a few moments. I neglected to state that with the appearance of the maniacal excitement intense nausea came on, his stomach rejecting iced champagne notwithstanding the usual local and internal remedies, but having faith in its ultimate effects the trional was again introduced but with more difficulty, for the patient having recovered from the anæsthesia was biting the tube and struggling to prevent its insertion. Again chloroform was used, and it was successfully passed, a solution of pepsin being used instead of the salt, and with better results, for the greater portion of it was retained.

An enema was now given containing 25 grains of trional and one-half grain of codeine in a solution of distilled water. Its effect was almost too rapid, for he suddenly closed his eyes, although trying to fight off sleep all he knew how. The lids were half closed over the eyeballs; there was stertorous breathing, dilation of the alæ of the nostrils: deep and slow inspiration. Notwithstanding these symptoms his pulse became slower, fuller and of greater volume. He remained in this condition theee-quarters of an hour; that much was gained at any rate; but he was still inclined to be violent. A second dose of 20 grains of trional was taken in a rational manner without the codeine, with better results, the sleep lasting from 1 : 30 a. m. to 3 : 15 a. m. or one hour and three-quarters, a steady gain of an hour. Up to this time he had not offered to speak, but after this sleep he would mutter incoherently, but no one could interpret it.

Pushing the trional 20 grains every three hours, sleep and quiet was at last forced to relieve the tension of his nervous system, and life and reason was saved to him. A strange and very interesting result of his accident was the complete forgetfulness of his entire past —a total loss of memory. Everything preceding the accident was a dreary blank, even to his own name; and to this day I believe he still remains as a man without a past. He had no recollection of his boyhood days, nor of the fact of his mother's death but a short month before he was hurt. Fortunately that portion of the brain governing the sense of reading, writing and speaking remained in full power since his return to consciousness, making all in all one of the most interesting cases which it has been my lot to see. He did not seem distressed at his inability to remember, and for several months he remained weak. Convalescence was much retarded by his seeming unconcern as to recovery. Moving away from that locality, I lost track of him also, but lately set on foot an inquiry, and learned that he is still engaged at his calling of structural bridge work, and is making a success of it, and now enjoys the best of health and is a strong and useful citizen.

These two cases from among many others in which I placed my entire reliance on trional, led me to believe it is the hypnotic par excellence, and unlike

so many of the newer remedies it is certain and uniform in its effects. In both these cases the absorption and efficiency was found to be increased by its administration in a mixture of hot glycerine, and in the large and continued dosage it proved free from any cumulative effects. The only after-effects noticed were slight nausea, loss of appetite, eructation of gas, an exalted sensitiveness to sudden noises, irritability of temper, and a general sense of weariness, accompanied by dizziness. If the drug is used continuously for more than several weeks at a time, an interval of a number of days should be allowed to elapse before resuming its administration. It will be found that during the time it has been interrupted the system seems to thoroughly eliminate any traces of its action, and when again taken up the effect is as marked as when first commenced. As a hypnotic and sedative it deserves the highest rank on account of its universal usefulness in cases where other hypnotics cannot be borne.

Selections.

Gunshot Wounds of the Abdomen.

Dr. H. H. Grant of Louisville, Ky., read this paper. He stated that the surgery of gunshot wounds of the abdomen, which had been for some years pretty well settled to the satisfaction of the profession, received something of a shock by the report of the surgeons who served in the late war with Spain (Journal of American Medical Association, July 11, 1898) Though these reports which were made by men of experience and high reputation on the subject, were modified to bear especially on the wounds received in battle, yet the inferences and indeed the conclusions, affected to a considerable degree surgical judgment. The results of the investigation of Klemm showed, in an analysis of one hundred and fifty two cases, that even those patients in whom penetrating wounds of the abdomen were established, who did not die of immediate effects, eventually nearly all succumbed to exhaustion from sepsis and later suppuration. The meaning of this was that, practically speaking all cases of penetrating gunshot wounds of the abdomen, untreated by surgical repair of the lesion, resulted fatally, from hemorrhage, peritonitis or sepsis. The mortality after operations done in the first seven hours after injury was fifty-two per cent., as against sixty-four per cent. for operations at all periods. But a study of the tables of Parker showed such variations in the mortality succeeding complicated and uncomplicated wounds of the various viscera all of a fatal character without operation, as to indicate that in uncomplicated wounds in some situations the early operator would save from seventy-five to eighty per cent. of what would otherwise be fatal cases. His tables also showed that of sixteen operations done in which no intraperitoneal injury was found, but three patients died, one from an overlooked perforation and two from peritonitis, due to infected blood clot, a fatal complication on which Klemm laid much stress. Dr. Grant sent out a circular letter to one hundred prominent surgeons, and an analysis of the reports developed a number of most important and interesting facts. The mortality of the whole number of operations was about fifty-two per cent., an indication that the prognosis was improving with the more energetic measures of treatment. The practical management of suspected penetrating wounds was as plain a duty as the tying of a bleeding artery, in his opinion. As soon as possible after the injury, the patient should be transported to a suitable place, and, under aseptic precautions, after all preparations have been made for a laparotomy and repair of lesions, the experienced hand should carefully trace the course of the bullet into the cavity if it went there. This was easy enough when the penetration was direct from the abdominal wall, but was often difficult or impossible when it was from behind or from the thoracic or pelvic cavity. Under these latter circumstances the history and direction of the projectile, and the general symptoms, must be the only guide, giving to the side of operation the benefit of the doubt. *Medical Record*, N. Y., 1899, lxi, 996.

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VOL. III. WASHINGTON, D. C., MARCH, 1900. NO. 1.

Selections.

Proportion of Killed to Wounded.

In the battle of Graspan, or as it is to be called, Enslin, the losses which fell principally upon the Naval brigade were 24 killed, 166 wounded, and 7 missing. Here we have again to note the happily small proportion of those actually killed among the number hit. The Boer force encountered at Graspan probably consisted of the remnants of the Belmont force together with other fresh commandoes, and the rifle employed in all probability was principally the Mauser. At the first engagement at the Modder River, where Lord Methuen's force found 8,000 Boers posted in exceptionally strong positions, the casualties although severe (73 killed and 365 wounded) were lighter than had at first been anticipated. This brings the total casualties for the three actions up to 966 killed, wounded and missing.

	Killed.	Wounded.	Missing.
Belmont.....	54	238	2
Graspan.....	24	166	7
Modder River	72	396	7
Total.....	150	800	16

This gives a proportion of killed to wounded approximately as 1 to 5.3. The proportion of killed to wounded varies in different campaigns, and of course depends to a considerable extent on the conditions under which actions are fought, the tactics employed by the commanders, and the distance usually maintained between the opposing forces, and finally whether or not the engagements in a campaign consist for the most part in attacking entrenched positions where one side is exposed at short ranges.

Colonel Stevenson, R. A. M. C., Principal Medical Officer on the Line of Communication, in his work entitled Wounds in War, gives some interesting statistics on this point. Thus in the Russo-Turkish war 1877-'78, where entrenched positions were continually attacked at short ranges, the proportion of killed to wounded, among the Russians was as high as 1 to 2.1; at Blenheim in 1707 it was 1 to 1.3. The late Sir Thomas Longmore summing up the available statistics on this point, showed that the proportion of killed to wounded, has been on an average, 1 to 4. These figures apply to the number of dead found on the field; while of those who reached the Hospital alive, a large proportion died during the first two or three days but these were not included in the figures given above.

During the Russo-Turkish War 1877-'78, 11.8 per cent. of the wounded died in the Army of the Danube, and 30 per cent in the Army of the Caucasus. We may, therefore, conclude that we shall not be giving a too sanguine estimate when we predict that at least 87 per cent. of our wounded in South Africa will

eventually recover. Fischer, whose statistics are probably the most accurate on this subject, gives the proportion of killed to wounded as follows.

At the battle of Kunnersdorf, 1759	1 to 1.9
At the battle of Leipzig, 1813	1 to 2.0
English in the Crimea	1 to 4.4
French in the Crimea	1 to 4.8
Prussians in Schleswig-Holstein, 1864	1 to 1.8
Prussians at Koniggratz	1 to 3.6
Austrians at Koniggratz	1 to 3.0
Germans in 1870-'71	1 to 5.4
Russians in 1877-'78	1 to 2.1

This gives an average of 1 to 3.2. It will thus be recognised at once that the proportion of 1 to 5.3 which is that for the battles on Lord Methuen's march, is considerably below the average of past campaigns, and is curiously enough almost identical with the loss sustained by the Germans in the campaign of 1870-'71. It must further be borne in mind that these battles have all been fought under exceptionally arduous conditions for our men, inasmuch as they have in every instance been storming strongly held and partially entrenched positions.

NATURE OF WOUNDS.

Your special correspondent in Capetown is able in a recent letter to give some account of the wounds sustained by our men. Speaking of the cases which he had seen in the Wynberg Hospital, he says that all are Mauser bullet wounds except two ; he also says that all the men agree as to the very small amount of shock produced by the Mauser bullets, and the slight amount of actual pain at the time of being hit ; he also says that one notable circumstance is that the majority of the wounds are in the extremities, and from another source we hear that they are principally in the legs and abdomen. This the men themselves attribute to the wild firing of the Boers. As a matter of fact it is an old tradition with the rifle to fire at a man's feet, as the bullet fired a little low will ricochet and do great damage, while if it be fired too high it passes harmlessly into space. There was a tendendency with the Martini-Henry, and still more with the old Snider, for bullets to rise above the point fired at; hence the additional incentive to fire at the enemy's feet. The Lee-Metford and Mauser rifles are more accurate than the Martini-Henry, and this probably accounts for the fact of so many wounds being inflicted in the lower extremities. The bullets actually struck the object on the point aimed at. It is gratifying to think that not only are Mauser bullet wounds frequently almost painless at the time of infliction, but that a large number of them heal rapidly by first intention, a course which was rarely followed by the wounds from bullets of larger calibre.—*British Medical Journal*, 1899, p. 1697.

Chances of Death in War.

We have recently had occasion to realize how much more deadly is the effect of disease in an army than the enemies' bullets. The extent, however, to which this is true must be a source of surprise. The following statistics we take from a daily paper.

The most competent authorities state that on the average it takes a ton of shot to kill a man. For instance, it has been estimated that in the Crimean War the British and French troops fired between them the enormous amount of 45,000,000 projectiles, resulting in the death of only 51,000 Russians, while on their side the Czar's adherents killed some 46,000 of the allies with an expenditure of over 50,000,000 projectiles, this representing a death for every 1,087 shots fired.

The American Civil War returns, which were got out with very great care, showed that the loss of both the Federals and Confederates was about seven per cent of the forces engaged, to bring about which involved the expenditure of nearly 22 hundred-weight of ammunition per man.

At the siege of Mezieres, in the Franco-German War, the Prussians threw no fewer than 197,000 projectiles into that town, but strange to say, less than 400 people were killed by them. At Trouville, two people only were killed after some 27,000 odd shells had been discharged. At Sedan, however, the aim of both the Germans and French

showed a marked improvement, for after 240,000 projectiles had been fired nearly 9,000 French and Prussians were killed.

For the Spanish-American War the returns showed a tremendous amount of shot and shell fired for very meagre results. Of course, in this case although the mortality was not great, the damage to earthworks, fortifications and government buildings generally was enormous. When the American marines landed at Santiago, during a fusilade upon the enemy lasting two nights, the machine guns and rifles alone accounted for the consumption of over 25,000 rounds of ammunition. Sixty-eight dead Spaniards were found as a result of this enormous expenditure of ammunition.

Great Britain's experience in recent wars has been very little if any, better than the results just accorded. Take, for instance, the Chartered Company's expedition into Matabeleland. Every one will remember how the warriors of Lobengula were mowed down by the Maxim guns like skittles, but even in this instance, which perhaps is the most effective on record, as the impi advanced on the British lines in solid masses it would have puzzled a blind man to miss shooting some of them. The mortality was very small considering the vast number of cartridges expended, but this was accounted for by the fact that on examination some of the dead bodies contained more than 50 bullets each. On another occasion, at an attack on a laager some twenty miles south of Bulywayo, 14,000 rounds of ammunition were disposed of with a result of 346 dead Matabele.

Military authorities now regard rapidity of fire as being more essential than range and precision, and content themselves with giving general orders to aim low, and this perhaps accounts for the fact that most wounds are inflicted on the enemy's lower extremeties, statistics showing that on the average 45 per cent of wounds occur in the legs, 33 per cent in the abdomen, 21 per cent in the arms and chest, and only one per cent in the head. *Boston Medical and Surgical Journal*, 1899, vol. cxli, p. 534.

The Sun Fever of Tropical America.

The term sun fever has been applied to a number of different pathological conditions. For example, dengue has been called by that name, so has sunstroke, and Aitken, in his *Science and Practice of Medicine*, uses it in connection with a febricula that is observed in Burmah and in India. According to Dr. William Hemphill Bell, of the navy, who writes on board the *Vixen*, stationed at Bluefields, Nicaragua, (*University Medical Magazine*, November), the term is applied *par excellence* by the people of Central America, including the physicians, to a peculiar febrile affection of which he has observed five examples. It begins with a brief initial stage of pronounced malaise, a feeling of fulness in the head, and slight fever. These symptoms soon become aggravated and are accompanied by supraorbital headache, inflammatory swelling of the face, particularly about the eyes, hyperæmia and œdema of the conjunctivæ, soreness of the eyeballs and their sockets, impairment of vision, and more or less photophobia. At the height of the fever, about the second day, the temperature is between 102° and 103 F., and at that time the patient complains of soreness of the back and legs, with dull aching and diffuse tenderness of the abdomen, which seem to proceed from the stomach. There is atony of both that organ and the intestines, the tongue is swollen, flabby and lightly coated, there is almost complete loss of appetite, with considerable tympanites, gaseous eructations, flatulence, and a tendency to constipation. This acute stage lasts ordinarily only six or seven days. It is thought not to be dangerous to life or to give rise to annoying sequelæ, but it is surprisingly exhausting, so that a tonic treatment should be employed for several weeks. Unlike insolation, the sun fever of Central America does not leave its victim more sensitive than before to the pathogenic action of the sun; indeed, it seems to protect him against it in a measure.

As to the pathology of the disease, Dr. Bell is inclined to think that it is

essentially a peripheral neuritis of a low grade, limited to the parts exposed to the direct action of the sun, with resulting vasomotor paralysis and œdema of the deep tissues of the inflamed area, whether cutaneous or mucous. He thinks the gastro-intestinal disturbances and the moderate fever are the consequences of this inflammation. Although he believes the sun's rays are the actual cause of the disease, it is not by mere heat that they act, for nothing of the sort results from exposure to the intense heat of the fire room. "There seems to be some special element in the solar spectrum," he says, "such as suggested by the phenomena of the Röntgen ray, capable of injuriously affecting the tissues," and he calls the disease a "sun traumatism." He notes that all his patients were of the very blond type, and he thinks that all persons of light complexion, if they have not gradually become inured to exposure to the tropical sun, are susceptible to this disease.

Much as the medical officers of the British services in India and other hot regions have done to increase our knowledge of tropical diseases, Dr. Bell thinks they have not made the most of their opportunities. Doubtless this is true; most men fall short of their full capabilities. Let us endeavor, in the new possessions that have come to us recently, to do better; nevertheless, if we but do as well as our British brethren have done, we need not be ashamed. That we shall do so, Dr. Bell's very valuable communication is an earnest. *N. Y. Med. J.*, 1899, lxx, 928.

The Health of the Army.

In his Annual Report Secretary of War Root compliments the Medical and Commissary departments of the Army for efficient service rendered during and since the war. "The health of the Army from the beginning of the Spanish war," he says, "has been remarkably good. The deaths from all causes (including casualties in action) in the whole army, regulars and volunteers, for the fourteen months from May 1898, to June 1899, inclusive, were 6,619. This is equivalent to an annual rate of 33.03 per 1,000 of strength. The deaths from disease during the whole period were at an annual rate of but 25.68 per 1,000 * * * For an army largely drawn from a cold climate and transported suddenly to the tropics mainly composed of new recruits not trained to care for themselves in camp or on the march, and a great part of which was stationed in a malarial country or quartered in or about cities infected with yellow fever, and especially adapted to the production of typhoid, this is an extraordinary result and reflects credit upon all the branches of the service engaged in clothing, feeding and caring for the men. The significance of the annual rate of death from disease in the Philippines (17.20 per 1000) may be better appreciated by comparison with the rates in some of our well known American cities. The annual death rate per 1.000 is in Washington 20.74, in Boston 20.09, in San Francisco 19.41, in New York 19.28, and in Baltimore 19.10." *Medical Record*, N. Y., 1899, lxi, 900.

Chronic Leg Ulcers.

A confrere reports, says Dunglison's College and Clinical Record, having treated over two hundred cases of chronic ulcers of the leg by the following method, and each time with success. The treatment is based on a thorough disinfection of the sores. The limb is first well washed with green soap and dried, and then the ulcers are powdered with calomel and triturated by means of a plug of cotton attached to a piece of wood (penholder) and steeped in water, so as to form with the calomel a thick paste. On this paste is sprinkled some fine table-salt; a dressing of gauze and cotton terminates the operation. The sublimate resulting from the combination of the chloride of sodium and the calomel is very active in its effect, and for three hours the patient suffers from an intense burning sensation in the wound, although never so unbearable as to require an injection of morphine. At the end of 24 hours the ulcers are washed again, and this time the surfaces are of

a bright-red color, all the granulations having been distroyed. The pain derived from the injection and the inflammation of the surrounding tissue has generally disappeared at this stage. The wound heals now rapidly; but to hasten the cicatrization, the author generally applies an ointment of turpentine.—*Am. J. Surg. and Gynecol*, St. Louis, 1899, xiii, 104.

Sterilizing the Hands.

Dr. Mikulicz *Deut. Med. Woch.*, No. 24, 1899. Green soap in alcoholic solution is now employed by Mikulicz for sterilizing the hands. After a trial of the various methods in vogue, he came to believe that this preparation, which is official in the German Pharmacopeia under the title of Spiritus Saponatus, affords the simplest and most efficient means at command. His method is as follows: If the hands are visibly dirty, they are cleansed by means of a gauze tampon dipped in the soap solution. The nails are then cleaned with the instruments of Braatz, and the hands scrubbed for five minutes in the soap solution, by means of a sterilized brush. Water is not used at all in the process, which owes its especial value to the fact that the soap solution seems to penetrate into the deeper skin strata, and so to exert a certain bactericidal action on these layers. The operative field is treated in a similar manner; the scrubbing with the soap solution being continued for 5 minutes. The advantages claimed by Mikulicz for this method are the economy of time, the lack of toxic properties, odorlessness, cheapness, and the greater persistence of the effect. If the friction is not kept up longer than 5 minutes the skin is not irritated; but, in common with lysol, the soap solution has the drawback of making the hands slippery, which may to some extent be obviated by drying them in sterile gauze.

Varicose Ulcers of The Leg.

Of varicose ulcers of the leg Dr. F. E. Bunts, professor of surgery in the Medical Department of Western Reserve University, Cleveland, says: "The treatment of one of these ulcers should be no more of a bugbear than that of a varicocele. A cure can be promised as positively as in any operation in surgery. There is no varicose ulcer so bad that it cannot be cured, and that, too, with great rapidity, almost perfect safety, and little or no pain. What a contrast to the months and years of treatment and suffering which they have so often heretofore entailed! This seems to be one of the great triumphs of surgery, and one which, when it is fully appreciated by the profession, is destined to confer as much benefit and relieve as much disability and suffering any as operation in surgery. A long, convex incision is made in the vertical axis of the limb embracing the area of greatest varicosity, and this incision is carried through to the deep fascia. The large flap is then turned back and the enlarged veins on its under-surface exposed and dissected out. The flap is then returned to its normal position and sutured in place. When the varicose veins are numerous and cover an unusually large surface, two flaps may be made at suitable places instead of one." The operation that Dr. Bunts has performed twelve times during the past year, with success in all but one case, has been slightly different from that already mentioned: The site chosen for operation is the long saphenous near the bend of the knee. The leg and thigh are well scrubbed, shaved and wrapped in bichloride compress the day before the operation. The ulcerated surface is likewise dressed with a moist bichloride dressing, and, if the incision is to extend nearly to its border, it is best to cauterize the ulcer on the day of operation in order as far as possible to avoid

danger of infection. During or just before the administration of the ether, a bandage is placed high up around the thigh, just tightly enough to obstruct the venous circulation, thus causing the veins to become more prominent. The limb having again been thoroughly cleansed and protected from danger of infection from the ulcer, an incision is made for a length of eight or ten inches over the long saphenous beginning about four or five inches above the knee. A ligatur is placed about the vessel at its upper exposed point and it is then dissected out for a distance of about eight inches, ligating and severing all communicating branches with catgut. After the removal of the vein the wound is sutured, the wound carefully dressed and a posterior popliteal splint applied. In none of the cases did he apply any dressing to the ulcerated surface other than a very weak bichloride dressing or simply sterilized gauze. In every case but one the improvement in the ulcer seemed almost phenomenal It took on healthy granulation process, and epidermization went on with great rapidity until the ulcer was entirely healed. In no case did infection of the incised wound or phlebitis result. The case in which failure occurred was an extremely bad one, and he is satisfied that the slow repair in that case was due to the fact that he did not remove sufficient of the enlarged veins. *Am. J. Surg. & Gynecol.*, St. Louis, 1899, xiii, 103.

Experiments Relating to Sterilization of the Hands.

Dr. L. Freeman, *Ann. of Surg.*, xxx, No. 4. p. 496. The author offers the following propositions based upon his own experiments and those of others:

1. None of the methods of sterilizing the hands can be absolutely depended upon. Many positive results are arrived at by means of faulty experimental technic; the culture media becoming impregnated with antiseptics, the skin temporarily hardened by alcohol, formalin, etc., or the hands not subjected to sufficient maceration and friction in the culture medium.

2. Under circumstances where it seems desirable to do so, much may be accomplished by sweating the hands in a hot-air oven, by wearing rubber gloves for some time prior to an operation, or by immersing the gloved hands in hot water. Mere prolonged soaking in very hot water, although not so effective as dry, hot air, must have some favorable effect. Is is difficult to understand, however, how the sweating method can dispose of all the micro-organisms beneath the nails. The procedure will hardly be extensively employed owing to its inconvenience.

3. Excessive brushing beneath the nails, as much even as the sensitive tissues will tolerate, seems merely to stir up the bacteria when carried beyond a certain point. We can hope to accomplish little by this means.

4. So far, the only really reliable means of rendering the hands aseptic is to incase them in sterilized rubber gloves. But if the gloves become torn, as they often do, the danger of infection is considerable, owing to the bacteria which have accumulated beneath, from perspiration.

Coating the hands with various substances has been tried and found ineffectual.

Cotton gloves, although they soon become contaminated by exudations from the skin, probably do some good, especially if frequently changed, by filtering out the bacteria, as it were, and preventing their entrance into wounds. *Post Graduate*, N. Y., 1899, xiv, 1920.

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THE MILITARY SURGEON

A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Captain, Medical Department, U. S. A.; Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. III. WASHINGTON, D. C., APRIL, 1900. NO. 2.

Selections.

Association of Military Surgeons.

The Association of Military Surgeons of the United States meets in New York City, May 31st and June 1st and 2nd, at the New York Academy of Medicine, 17 West 43 Street.

This item will interest many of our readers, as among them are a number of gentlemen belonging to the National Services, Army, Navy, and Marine Service, and to the National Guard and Militia of the several States.

Expenses of Army Medical Department in Philippines.

The cost of the war in the Philippines has been given officially in a statement of expenditures by the U. S. War Department covering the military operations in the Philippine Islands and including outstanding liabilities, so far as can be determined, for the period from May 1, 1898, to November 1, 1899. The information was sent to Congress in response to a resolution passed January 30, 1900 The total amount reported is in round numbers, $49,000,000, and of this sum the charge against the Medical Department is $1,206,137.13. The Army and Navy Register of March 17, in discussing the various items constituting the total, compliments Surgeon General Sternberg, in the following terms: "The expenditure under the medical department is another surprise. It is entirely to the credit of the Surgeon General of the Army that his admirable administration of his well organized and efficient department in the Philippines has been conducted at no greater cost. This economy does not in any sense approach parsimony, and there is no evidence that the health of the troops has suffered, or the wants of the sick or injured have been ignored on account of any false harboring of public funds under the medical department" *Journal Am. Med. Assoc.* Mch. 31, 1900.

Observations on Wounds by the Mauser Bullet in the South African War.

The treatment found to be necessary from an operative standpoint in cases wounded by the Mauser bullet has been shown by the experience already gained in this war to have revolutionized all surgical ideas of wounds and their consequences if left alone. There seems to be a combination of the effects of this beautiful climate and the nature of the small opening and channeling made by these bullets, whereby the entrance and exit wounds almost invariably scab over at once and heal by first intention. The way in which these bullets traversed the brain, lungs, liver, kidney and probably the heart (judging by the direction), intestines and bladder has been the wonder of all those capable of judging.

The brain has been perforated in many directions, where former experience would have lead one to expect instant

death, and yet many of these cases are recovering.

As regards the lungs it appears that unless instant death is caused by the cutting of a large blood vessel, these bullets may pierce them with impunity. Slight hæmophthysis occurs for a day or two, the wounds heal by first intention, and no symptoms remain after a few days. Judging by direction, there seems no doubt that the wall of the cardiac ventricles must have been cut, without any evil effects.

The liver and kidneys have been pierced in all directions with no permanent results supervening.

The intestinal wounds have been so remarkable that several distinguished surgeons, who are studying the wounds here, express an opinion that the bullet must have in some way escaped cutting the intestine. Against this idea, there is the direction, and the fact that in several cases of successful laparotomies (performed at the beginning of the campaign) it was found on opening the peritoneal cavity that no fecal matter whatever had exuded from the very small holes made in the gut by the bullet. The bladder and rectum have been constantly pierced without any after effects.

Cases are recorded in which the bullet has passed through the abdominal cavity in every possible direction, followed by no symptoms of any kind. Bullets have entered near the umbilicus and emerged at the last lumbar vertebra; they have entered just above the middle of the iliac crest on the one side, emerging at a corresponding point on the other; they have passed through the scapula on the one side and emerged in the third costal interspace on the other side with absolutely no symptoms of any kind following.

These bullets at a short range very often produce fracture of a long bone of the extremities; but, if hit in the centre, at a long range, the bullet pierces the bone like a drill without fracturing it across, and the wound heals by first intention.

This Mauser bullet is undoubtedly a very humane bullet, and very few of those who live for a couple of days after the receipt of their wounds die. As regards operative interference in abdominal cases, the old idea of opening into the abdominal cavity as a matter of routine would now be considered criminal. Either the man is killed outright or he, as a general rule, recovers by his own unaided efforts. In a few cases where peritonitis supervenes and this condition can be diagnosed in its early stage, operation should be undertaken, but up to the present such cases have usually ended in death a few days afterwards. *Army and Navy Journal*, March 17, 1900.

Medical Organization of the British Army in South Africa.

[By an officer in the British Medical Corps serving in South Africa.]

In describing the modern methods of succoring wounded on the field, their transport from the field to the hospitals, and their subsequent nursing, it becomes necessary to describe the various medical units concerned in the handling of a wounded man from the moment of his fall to his convalescence in the Base Hospital, 1,000 miles away. These various units are as follows:

Regimental Medical Officer.

Each regiment of 1,000 men has one officer of the Royal Army Medical Corps attached for duty in the field. This officer must keep constantly in touch with his regiment. He goes with them under fire along with the subaltern officers in the supernumerary rank. There are 8 companies in a regiment (that is, a battalion), and each company has 2 men told off as stretcher bearers. These men are taught the first principles of minor surgery by the medical officers of the various military stations in times of peace. These bearers march immediately behind the regiment under the command of the medical officer. Immediately a man is wounded, he is fallen upon by the regimental bearers, who extract the first field dressing (as it is called) from the man's own jacket and dress his wound at once. If the wound is very serious they merely do what they can until the officer is disengaged and

can attend to the man himself. The officer is followed about by an orderly carrying what is known to the soldiers as "the hairy companion," so called, because it is covered with cowskin with the hair left on. This "companion" is a box containing spare bandages, tourniquets, restoratives, and all the minor paraphernalia required by the surgeon. This orderly also carries a bag full of splints ("the surgical haversac ") and a water bottle. The ordinary fighting man is also well lectured in times of peace upon the mode of application of the first field dressing. The officer cannot be in all places at once, and therefore the regimental bearers are compelled to work a great deal upon their own initiative, especially on an occasion such as happened on Dec. 15th, at the Tugela River, when one medical officer found himself responsible for nearly 200 wounded officers and men during the first few hours of the battle. The wounded man, therefore, having been attended to to the extent of the first aid to the wounded, is forthwith carried by the regimental bearers to a place of safety, under a wall, or tree, or in a ditch, and there left with his water bottle. Of course the usual method of applying the first aid principles is carried out on the field as in other places all over the world, viz —rifles and bayonets are padded with grass and used as splints, and many are the ways of improvisation of splints and bandages. The wounded man, left in his place of shelter, is eventually picked up by the bearer company, who scour the country with their stretchers and search for wounded. This is a very long business, and a wounded man may lie miles away from the collecting station and not be found for hours. In the battle of Colenso, by means of 2,400 refugee civilians from the Transvaal, hired for three days at 5f. per diem, 300 of whom were attached to each regular bearer company, we were enabled to perform the record at feats of this kind by getting the whole of the 800 wounded into the Field Hospitals by 6 o'clock P. M., a great many of them having to be carried for 6 and 7 miles.

The Bearer Company.

Each brigade has a Bearer Company and Field Hospital of the Royal Army Medical Corps attached to it. This bearer company consists of 3 officers (medical), 8 stretcher squads (4 men to each squad), and the necessary complement of non-commissioned officers. When the action begins it is the duty of the various stretcher squads, each of which carries a supply of bandages and other minor surgical appliances, to march forth into the field and collect the wounded (already dressed by the regimental surgeons and bearers.) On finding a wounded man they discover the nature of his injury by reading a ticket which has been attached to his buttonhole by the regimental bearers. If they find it necessary, the wounded man is then rebandaged, and in any case is conveyed away by hand to the collecting station, which is located, if possible, in some sheltered spot near at hand, and is indicated by a large flag marked with a red geneva cross. This brings us on to a description of the "Collecting Station," which merely consists of this geneva cross flag and a row of ambulance wagons drawn up in line. Here the wounded are again examined and placed in the wagons, which are fitted with stretchers and padded seats and drawn to the dressing station of the brigade by four horses or eight mules (according to the country.)

At the battle of Colenso these wagons were greatly augmented by hand stretchers, carrying the wounded for many miles. The jolting of the wagons was therefore not brought to bear upon the serious cases. This idea of having 2,400 civilian bearers, and attaching them to the regular bearer companies originated in Egypt, where a whole Soudanese regiment was told off for this job in the last Egyptian campaign. This regiment of natives carried the wounded 25 miles across the desert in a single night's march.

The Dressing Station is situated as

nearly as possible 1,000 yards to the rear of the Collecting Station. It consists of a bell tent, containing an operating table, a supply of instruments, hot water, and all the necessary supplies for an urgent operation. As each wagon drives up it is at once unloaded, and returns at once to the Collecting Station for another load. There is a medical officer and several non commissioned officers and men at this dressing station. They place the wounded in two lots outside the tent, viz., those requiring surgical attention and those who are progressing all right. After all these are attended to they are again placed in a new set of ambulance wagons which conveys them to the Field Hospital.

The Field Hospital is located as nearly as possible about two miles further to the rear. It consists of 25 bell tents, each containing four stretchers, mackintosh sheets, blankets, knives and forks, etc. These hospitals therefore each accommodate 100 wounded. They also have a specially designed operating tent, office, surgery, pack store, mortuary tent and all the equipment of a hospital in the field. Such a hospital is what is called a "non-dieted" hospital—that is, that the wounded man's regimental rations are cooked here for him, and if it is necessary he has medical comforts served out to him by the hospital. The staff of such a hospital consists of 4 medical officers, 1 quartermaster and 40 non commisioned officers and men of the R. A. M. C. A Field Hospital is always erected in a complete fashion, as if it were to be a permanency, but it must always be ready to evacuate its sick and wounded, pack up all its impedimenta in its own wagons, do a day or more of marching, and then re-erect itself and receive sick and wounded again.

A Stationary Field Hospital is the first hospital on the lines of communication. It is fed by all the field hospitals. The mode of transit of the wounded to this hospital is either by wagon or, if possible, by hospital trains. It consists of tents as the field hospitals, and it is also in a modified degree mobile, but there is a great difference. It always sticks to the railway or river or some large road, and is, if I may so describe it, the first approach of civilization. It may be moved, but only at intervals. Such a hospital is principally needed for the accommodation of serious cases which must leave the field hospitals (which are perhaps on the move) but which are unfit to travel far in a train. From this hospital the wounded are conveyed, when fit, to the last hospital on the lines of communication, there to wait recovery or the alternative of conveyance by ship to the Base Hospital.

The hospital train is a train of first-class carriages in which are rigged up very comfortable berths. There is a first-class kitchen and dispensary car attached, and each train has a medical officer and detachment of the R. A. M. C. These trains on this occasion have been fitted with everything that money and the ingenuity of man can supply for the extra comfort of the wounded, and some of the wounded at Colenso (by means of the rapid transit afforded by the trains) were on the field at noon and before dark were safely stowed away in a permanent building with all the comforts of a city hospital at Estcourt.

The hospital ships, of which there are three at Durban, one at East London and one at Cape Town at present, are rigged up with all the latest improvements in medical science. *Army and Navy Journal*, March 17, 1900.

Mauser Bullet Wounds of the Head.

Report From the Anglo-Boer War.

"Gutter" Wounds of the Skull.

A considerable number of gutter wounds are seen. Here the skull is grazed or troughed to a greater or less depth. Even when a strip of scalp is destroyed, the wound heals up very readily, and when more or less circular apertures of extrance and exit are present; the grooving of the bone may easily escape detection. But these injuries are by no means unimportant. Even when the skull is lightly touched there is considerable fracture and splin-

tering of the internal table. When such cases have been trephined owing to cerebral symptoms, the extent of underlying damage has usually excited astonishment. There is little doubt in my mind, and I believe the opinion will come to be shared by the surgeons at work in the military hospitals, that every case of gutter wound of the skull should be trephined. In head injuries it is necessary to look far ahead. To concentrate the attention upon the mere healing of the wound is to miss the cardinal importance in these cases. Operation in these instances, though it may seem unnecessary and though it must be in some degree exploratory, is really most strongly indicated as a preventative measure. We are all in civil hospitals at home, only too familiar with cases of old head injury in which mental symptoms have gradually developed; and we would probably acknowledge, if only to ourselves, that belated surgical interference in such patients does not give very encourging results. "Exploratory" laparotomies are perpetually being performed in civil life, often with a very faint shadow of justification. Exploratory trephinings are too often omitted, simply because the symptoms which might indicate operation only slowly come on. It is very far from my intention to criticise now in any way surgical practice here. Operations for trephining here in this campaign have been so strikingly successful (as I make no doubt whatever statistics will hereafter show,) that the surgeons show no reluctance to undertake them. Nevertheless, some gutter wounds are seen which have been left to themselves. It is of course a class of injury very rarely met with in civil practice. Possibly some of those wounded in this way have been sent back to the front as recovered. It will be interesting in this case to note whether the men are easily affected by the sun, for it must be a matter of common experience that for a long time after a head injury involving any damage to the encephalon, patients are peculiarily liable to be so affected, even in climates much more temperate than that of South Africa. Possibly the high velocity of modern bullets accounts for the damage to the internal tables of the skull. The vibrations set up through the thickness of the skull by the passage of a Mauser bullet, say partly through the external table, must be enormously rapid and the mechanical explanation of the bone lesion is not far to seek.

Penetrating Wounds of the Head.

Bullet wounds actually penetrating the skull and some portion of its contents are numerous enough, and constitute at first sight the most remarkable cases met with in the military hospitals. First, with regard to the effects on the skull itself: The range will, as is well known and as has been determined experimentally, greatly influence the amount of injury inflicted on the bone. Unfortunately reliable information can be very seldom obtained on this point.

The more obliquely the bullet enters the skull the greater will be the amount of damage to the inner tables. If the apertures of exit and entrance are both at right angles to the plane of the skull, both wounds may seem to be cleanly drilled through the bone and are scarcely to be distinguished by external inspection. But in all cases the inner table will be more or less broken up at the aperture of entrance; and if the skull is trephined there will be no doubt whatever as to the direction of the wound. Even in a long wound fragments of the bone may be found lying along the greater part of the tract In not a few instances where trephining has been done at the front a second operation has been found necessary at the base, and much loose bone removed.

Hemiplegia Due to Perforating Bullet Wounds of the Head.

The following wound was almost certainly inflicted at long range. Private G. was wounded at Colenso on December 15th. The bullet entered close to the margin of the orbital arch in the left side, half an inch internal to the

supraorbital notch. The exit was close to the lambdoid structure on the right side some two inches below the level of the parietal eminence. The bullet perforated the skull at the latter point, but failed to pierce the scalp entirely, and was pulled out by a comrade. There was no loss of consciousness. The epistaxis was very free. The man was trephined on December 23rd., close to the wound of exit, which by some mistake was assumed to be the wound of entrance. Fragments of loose bone were removed. At the time of operation there was left hemiplegia and left facial paralysis, the eyes were normal. The motor area was examined at the time of operation, but appeared to be uninjured. Some brain matter escaped through the posterior wound, however, and there was evidently considerable laceration of the brain substance. The occipital wound was seen clearly to the aperture of exit, as the bones were driven outwards at this point. The story of the removal of the bullet was not communicated before the operation. By January 18th., twenty-six days after operation, power of movement in the leg had been almost wholly restored, but there was still complete paralysis of the arm. The facial paralysis, which had been complete was then slight. The mental state was one of some hebetude. In very few of the cases of grave head injury from bullet wounds is the irritability so often met with after head injuries in civil practice, to be noticed. The mental condition was slowly improving.

In several cases of hemiplegia from lesion of the cortical area the recovery of power in the arm is much slower than in the leg and in some at least, the prospect of recovery at all seems questionable. On the other hand, the foot drop is usually the most persistent symptom in the leg, which in not a few instances recovers rapidly up to that point, but then ceases to improve. The frontal lobes, in this and in many other of the cases, must have been extensively damaged, but no appreciable effects were manifest. As is commonly remarked, the experience of gun shot wounds in the head in this war almost appears to render the use of the frontal lobes questionable.

Aphasia: Trephining: Great Improvement.

A case of considerable interest illustrating the fact that functional activity can be restored with almost as remarkable rapidity as the mechanical lesion is repaired is furnished by the following case.

A trooper in the South African Light Horse (like so many of these adventurous and loyal young men, a man in good business position in Johannesburg) was wounded at Colenso on December 15th. The entrance wound was situated 1½ inches above the left zygoma, and the exit was about three inches higher up. Evidently from the direction of the wound, which was slightly oblique, the area of Broca's convolution was likely to be injured. The man did not lose consciousness when he was struck, but was able to walk some 300 yards to an ambulance. Arrived there, according to his account, he fainted. He was sent down in due course to Maritzburg. On admission he had aphasia: there was loss of power in the right arm, and left facial paralysis. On December 22d he was trephined, the bone between the apertures of entrance and exit being freely removed. Much loose bone was removed, together with blood clot and brain matter. Three days after the operation some power of speech returned. The arm began to rapidly recover power and the facial paralysis to disappear. By January 15th, twenty-four days after the operation, the arm had practically fully recovered its power. The facial paralysis was still evident, but was still mending. His power of speech was good, and he could converse readily enough, though occasionally making mistakes in using common words. Thus he occasionally said "Yes" for "No," or vice versa. On January 18th, the power of speech had further markedly improved. At the outset there was complete agraphia. The long period that elapsed between the date of injury and that of operation in this and in other cases recorded is noteworthy.—*British Medical Journal*, Feb. 1900.

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A SUPPLEMENT TO THE

NATIONAL MEDICAL REVIEW

UNDER THE CHARGE OF

W. C. BORDEN,

Captain, Medical Department, U. S. A.; Professor of Surgical Pathology and Military Surgery, Medical Department, Georgetown University.

VOL. III. WASHINGTON, D. C., MAY, 1900. NO. 3.

Original Article.

ARMY NURSING.

BY ANITA NEWCOMB MCGEE, M. D.

Before the middle of this century the regular medical departments which civilized Governments had organized included physicians, but depended on any help obtainable for the nursing part of the service. Such help came from troops that could be spared from active duty and from the female camp followers, but also in large part from the great Catholic Orders—such as the "Knights of Malta" and the Sisters who devoted their lives to nursing. For centuries it was these Sisters who were called on where nurses were needed and who represented their sex in the most honorable and worthy manner.

An era in Army nursing was marked with the appearance of Miss Florence Nightingale. She had been trained in a German institute for Protestant Sisters and when the frightful mortality of the Crimea made havoc among the English troops, she was sent to the field of battle by the English government and there was of great aid in bringing order out of chaos. Eighteen of her associates who went in the first party were Sisters of Catholic or Protestant Orders and the other twenty were secular nurses. Miss Nightingale's work also marked an era of another kind, for it was under her direction that then, for the first time, volunteer aid in the distribution of supplies, comforts and delicacies was organized.

In our Civil War, the name that heads the list of women is that of Miss Dorothea Lynde Dix. She was a woman of education and high character and her life had been devoted to philanthropic ends, principally the improvement in the condition of the insane and of criminals. On the 9th of June, 1861, the Secretary of War appointed her Superintendent of Women Nurses, a post of honor, but one which carried with it no official status and no salary. The duties of Miss Dix, which she or her agents fulfilled during the whole of the war, were to select from among the host of applicants those women whom she considered suitable to nurse soldiers.

In addition to this she was "charged with the diligent oversight of women nurses and with the duty of ascertaining by personal inspection whether or not

they were properly performing their duties." The official order continues: "Medical officers are enjoined to receive her suggestions and counsels with respect and to carry them into effect, if compatible with the hospital service." The anamolous condition was thus presented of nurses officially recognized and enrolled, having at their head a woman who did not appear on Government rolls and who had no recognized rank or authority. But such a condition was to be expected in the transition stage of that time. Almost side by side with the official nurses were found the Catholic Sisters who gave their services without individual recognition, and also the innumerable irregulars of all sorts, whether camp followers, like those of olden times, or ladies sent by organizations to furnish aid—but in spite of this the principle of Governmental responsibility was coming to the fore. Miss Dix's corps of official nurses was a marked step in the progress of military organization and an incalculable gain to the position of women. Historians of the future will find in official records the story of woman's work in armies.

An advance excelled only by that made when medical departments were added to military establishments was achieved when civilized governments in 1864 prepared the great Treaty of Geneva. The principle involved was that the sick and wounded, together with those caring for them, should be regarded as neutrals, and be protected from injury at the hand of the enemy. To carry out this principle all governments signing the treaty (which includes now every civilized country in the world) adopted as a distinctive badge for their medical departments the Greek Cross of red on a white ground. This badge of the red cross—this official insignia of neutrality—is seen in the flags that wave over Army hospitals; seen on the Government ambulances; and on medical property, and is worn as a part of the uniform of the enlisted men of the Hospital Corps. In foreign countries the red cross may not be displayed by any person or thing except when authority therefor is granted by the proper military official, and it is thus strictly kept to its legitimate duty. In our free land the Government prevents no man from wearing what he pleases. In the face of the enemy, however, this sign of neutrality can be worn only by persons attached to the medical department and by those who have received a written permit from military authority, which they must show on demand.

The same persons who originated the idea of the Geneva treaty also planned for the organization of non-religious volunteer aid under government control. Civilized peoples have, in this century, taken an interest in philanthropy which was previously unknown in history and the utilization of this force with greatest benefit and least loss, was the end proposed. In pursuance of this plan, most civilized governments now have strict rules that no one may aid their armies in any way except through certain specified religious and secular societies. In each country there is an officer of the Army, or other official, who is at the head of the volunteer work, and who designates what may be done, and how the assigned tasks are in general to be accomplished. Many of the secular societies thus officially acknowledged are leagued under a central committee, located at Berne, called the International Committee for Aid to Wounded Soldiers. In time of war the individuals who rep-

resent these national aid societies in active work are authorized by military authority to wear the red cross on their arms. They work under strictly military orders, and are even subject to military punishments.

These societies in many foreign countries supply nurses in time of war. Such nurses, however, are supported by their respective governments and controlled entirely by them, the work of the Red Cross and other societies being limited to the original endorsing of the nurses. In France, Belgium, Italy, Austria and other European countries, Catholic Sisters are regularly employed by the respective governments as army nurses and serve in the larger hospitals in time of peace as well as doing duty wherever needed in time of war.

In England, on the other hand, there has long been an established secular Nursing Service of Women connected with the Army in time of peace as well as war. A few years ago a body of reserve nurses was also attached to the military service and some of these reserves, as well as many of the regular nurses, are now serving in South Africa.

During the period between the Civil War and the Spanish War there were no women nurses in the United States Army, although the nursing profession had, during that time, arisen and remained (as ever) almost entirely in the hands of women. In our country there are no recognized official relief societies similar to those in other lands. We have no general Red Cross organization and no provision had been made for securing the services of additional nurses who might be needed in time of war.

What had been done, however, was the formation of an important body of enlisted men under the medical department, called the "Hospital Corps." These men wear as part of their uniform the official red cross of the medical department and are trained for all the duties which may be required of them by the Army surgeons.

At the end of March, 1898, the 520 men of this Corps were in all degrees of training under 100 hospital stewards and 103 acting stewards, who may be considered the equivalents of graduate nurses in civil hospitals. This number, barely adequate for an army of 25,000 men in time of peace, was, of course, wholly inadequate in time of war for an army of ten times that size, and although it was planned to greatly increase the Hospital Corps, it was evident that the raw material obtainable could not do the work of trained nurses. Therefore, to supply the approaching necessities of the Army, the United States Congress, in April, 1898, at the request of the Surgeon General, authorized him to employ nurses under contract and made an appropriation for their payment. No restriction was made as to sex, but at that time it was the opinion of the War Department that but few women nurses would be needed and that their services would be limited to the general hospitals. Several hundred women, largely untrained, had already applied, but the force of the Surgeon General's office was too limited to permit of any examination of their qualifications.

Knowing these facts, the writer suggested to the National Society of the Daughters of the American Revolution (of which she was a Vice-President General) that that organization should act as an examining board on women nurses for the Government. The Surgeons General of both Army and Navy promptly accepted this offer of the

Daughters and in April the "D. A. R. Hospital Corps" was organized, with the writer as Director.

The standard adopted for appointment to Army service was that of graduation from a training school, combined with suitable endorsements, the chief reliance being placed on a recommendation of the superintendent of nurses under whom the applicant had graduated. Women physicians were also considered eligible, although but few were accepted.

The first nurses were appointed on the 10th of May 1898, and ordered to the general hospital at Key West, and before the 15th of July, 47 nurses had been asked for by surgeons at different general hospitals and had been selected by the "Daughters" for appointment by the Surgeon General. About this time the yellow fever appeared among the Santiago troops, and nurses were urgently needed there. The Surgeon General, therefore, employed the wife of the Superintendent of Freedmen's hospital and sent her to New Orleans to secure the services of immunes, both male and female. The majority of the nurses so appointed were colored women without hospital training, a considerable number of whom were sent to Santiago in July and August. The "Daughters" also supplied a few trained immune nurses for this service.

During the month of August an epidemic of typhoid fever broke out in the camps which had been established as temporary places of instruction for the volunteer troops. It also became evident at that time that these camp hospitals had lost their original character and become practically stationary, and consequently the objection to the employment of women nurses in them had disappeared. During that month, therefore, and especially in its latter half, the demands for nurses grew to an entirely unexpected amount, and the roll of army nurses reached about 1000 names. Not only did they go to general and field hospitals but whenever the surgeon in charge of a division or post hospital so requested, trained nurses were assigned to duty under him. During the fall it became not uncommon for regiments or larger divisions of troops, when they moved to southern camps or to Cuba, to take with them the trained nurses attached to their hospitals, and no inconvenience or difficulty has been reported to ensue.

It is needless to refer to the great value of the work rendered by these trained assistants to the medical department of the army, since surgeons, patients and the public at large have been most enthusiastic in their expressions of appreciation. Scarcely a training school in the United States but sent some of its best representatives for this work, and the women adapted themselves to camp conditions and to many sorts of discomfort in a manner that quite altered many preconceived opinions.

During the greatest stress of the work valuable assistance in securing the services of nurses was rendered to the government through the daughters, by a number of organizations. The Sisters of Charity merit prominent mention in this connection as they furnished from their Order 200 Sisters, many of whom had much hospital experience. A few of the Sisters from four other Catholic organizations and from one Protestant Episcopal Sisterhood also served for a time. The Society for the Maintenance of Trained Nurses, which was Auxiliary No. 3 to the American National Red Cross Relief Committee of New York,

in August, and for a month or two thereafter, examined the credentials of a large number of applicants and was unique in its work of furnishing money for the transportation of nurses and for their comfort while waiting orders in New York City and while serving at certain army hospitals. Much valuable aid was rendered by the superintendents of training schools, although it is an interesting fact that no organization of trained nurses has rendered any noteworthy assistance. In spite of the overcrowding which had previously been complained of in the nursing profession there was much difficulty at the time of greatest stress and need in securing enough suitable applicants to fill the demands from the Camps. The Chief Surgeons at Montauk, Jacksonville, Lexington and San Francisco were therefore authorized to secure women nurses without regard to training, and in this way a few undesirable appointees unavoidably crept in.

In addition to the army nurses, temporary help was accepted at a few hospitals from women who were not connected with the medical department. That such should have been the case is much to be regretted as irregular nurses are not subject to control and discipline and do not hold the same honorable position as do women who have governmental authority for their presence with the army. However, the zeal of womankind is such that some exceptions of this kind were almost inevitable.

The volunteer work of the Daughters of the American Revolution and of the societies which were co-operating with them was necessarily limited to the selection of nurses for appointment. By the end of August 1898, it became necessary to establish an Army Nurse Corps Division of the Surgeon General's Office, and the writer was therefore appointed an acting assistant surgeon and assigned to duty in charge of that division.

By the middle of September, the maximum of about 1,200 nurses were in service, and after that there was a gradual decrease resulting from the control of the typhoid fever. Many of the nurses only entered the service for the emergency time and a number of them proved in varying degrees better fitted for civil life than for military conditions. At the close of 1898 about 700 nurses remained in the service, but with the mustering out of the volunteer army in the spring of 1899, this number was necessarily greatly diminished. Since the first of July, 1899, the number of army nurses has ranged between 200 and 250. Over one hundred nurses are found in and near Manila where the most active hospital work is, of course, going on. Forty nurses remain at the General Hospital, San Francisco, and the remainder are scattered in small detachments through the United States, Cuba and Honolulu and on the U. S. Relief.

The fatality among the trained nurses has been extremely small, the deaths numbering only 5. Five of the 250 Catholic Sisters also died, as did 3 out of about 100 untrained (immune) nurses. All except two deaths were from typhoid fever.

As soon as the Army Nurse Corps Division was established, work was begun in the organization of the nursing body, including provision for furnishing of regular reports and for the preparation of complete records or service. The uncertainty and great changes in the size and movements of our Army have made this work of necessity a slow one

and it has been the policy of this office to base its rules upon experience rather than to make rash regulations which might entirely fail in practice. Under date of November 7, 1898, a short preliminary circular was issued by the Surgeon General, and on June 20, 1899, the more extended and permanent rules to govern the "Army Nurse Corps" were issued. The qualifications for appointment are as follows :

"To be appointed in the Army a Nurse must be qualified therefor, physically, mentally, and morally, as hereinafter provided :

1. She must present a physician's certificate of health on a blank form which will be furnished by the Surgeon General.

2. She must be a graduate from a training school for nurses which gives a thorough professional education, both theoretical and practical, and requires at least two years residence in a hospital.

3. She must be endorsed by the present superintendent of nurses at the hospital from which she graduated and also by the one under whom she was trained. Blanks for these endorsements will be furnished by the Surgeon General and are to be returned directly to him."

American citizenship is also required and appointees must be over 25 years of age.

The circular also states that—

Women not under army contract will not be permitted to serve as nurses in army hospitals unless in an unforeseen emergency, and in such case the medical officer in charge of the hospital will immediately report the fact to the Surgeon General for his action.

On entering the service, the nurse signs a contract to serve for at least one year, unless she should sooner be discharged, and she receives for service in the United States, $40.00 a month ; for service outside the States, $50.00. Besides this, each nurse receives quarters and rations, as well as all transportation expenses to and from her home, and when traveling under orders ; and is further entitled to a maximum of 30 days leave of absence with pay, in each calendar year. She is also cared for during illness. This compensation as compared with that given to the few graduate nurses who are enployed in civil hospitals, is very fair, and quite satisfactory to the nurses themselves.

All are now required to wear a uniform consisting of white linen shirt waist and apron with skirt and necktie of army blue galatea and a blue Eton jacket is also provided for use when desired. An enameled badge is also worn by the nurses. It is red with a gold border and is the shape of the modified maltese cross which forms a part of the uniform of medical officers.

At each hospital, a nurse of executive ability and tact, is appointed by the Surgeon General as chief nurse, her duties being, as far as army conditions permit, equivalent to those of a superintendent of nurses in a civil hospital. The surgeon in charge of each hospital reports changes in status and number of nurses, but the chief nurse herself reports on their efficiency, health and conduct. These reports are sent to the surgeon general through the surgeon in charge of the hospital, who is directed to make his own remarks thereon. The provision for chief nurses has been found of the utmost importance to the success of the corps, and, as the duties of the women holding this position are often difficult, they have increased salary in proportion to their responsibilties. At small hospitals, where there are not over four nurses, the chief nurse is expected to do her share of ward duty, and receives no increase in salary.

[Concluded in June number.]

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The 79th Winter Session begins October 1, 1900, and continues eight months.

Matriculants must have received a good English education. A graded four-year course is required for graduation The Columbian University Hospital, the Garfield Hospital, the Children's Hospital, the Providence Hospital, the Emergency Hospital and Central Dispensary, furnish unsurpassed Clinical facilities.

FACULTY.

J. F. THOMPSON, Surgery; W. W. JOHNSTON, Practice; A. F. A. KING, Obstetrics; Ther apeutics; D. K. SHUTE, Anatomy; E. A. DE SCHWEINITZ, Chemistry; WM. P. CARR, Physiology; H. C. YARROW Dermatology; G. N. ACKER, Pediatrics; WALTER REED, Bacteriology and Pathology; W. F. R. PHILIPS Hygiene; T. E. McARDLE, Minor Surgery; H. L. E. JOHNSON, Professor and Clinical Professor of Gynæcology; W H. WASHBURN, Normal Histology; W. K. BUTLER, Ophthalmology; S. RUFFIN, Medical Jurisprudence; C. W RICHARDSON, Laryngology and Otology; GEO. W. FOSTER, Mental Diseases; E. L. TOMPKINS, Nervous Diseases JOHN VAN RENSSELAER, Surgical Pathology; A. R. SHANDS, Orthopœdic Surgery; GEO. N. ACKER, G. WYTHE COOKE, T. A. CLAYTOR, Clinical Professors of Medicine; J. W. BOVEE, Clinical Gynæcology; R. B. CARMICHAEL Clinical Dermatology; T. R. STONE, Clinical Genito-Urinary Diseases.

The College Building is situated at 1325 H Street N.W., the University Hospital at 1335 H N. W., within half a square of three lines of street cars going to every part of the city.

For Circulars and information, address **DR. E. A. De SCHWEINITZ, Dean, 1325 H Street N. W., Washington, D. C.**

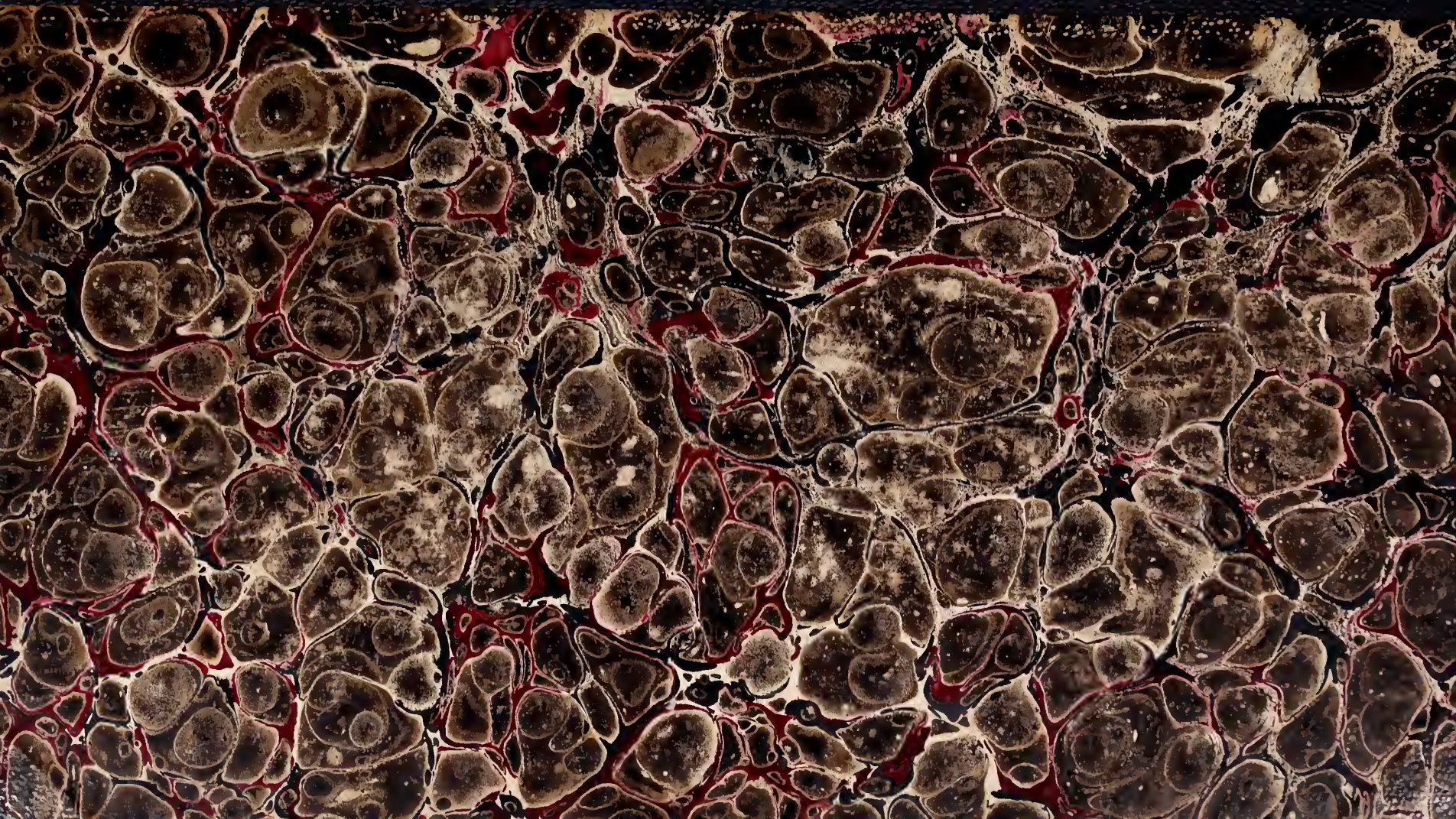
Dental Department of The Columbian University.

The 13th Winter Session begins October 2, 1898, and continues seven and one-half months.

Clinical Practice in the Infirmary from Oct. 1st until June 30th of each year. A graded three-year course is required.

FACULTY.

J. HALL LEWIS, Dental Prosthetics; HENRY C. THOMPSON, Operative Dentistry; Therapeutics; D. K. SHUTE, Anatomy E. A. DE SCHWEINITZ, Chemistry; WM. P. CARR, Physiology; J. R. HAGAN, Demonstrator in charge of Dental Infirmary. Also an efficient corps of distinguished Clinical Operators.

Lectures are held in the Medical College, 1325 H St., N. W.

For Circulars and information, address **J. HALL LEWIS, Dean, 1023 Vermont Ave., N. W.**